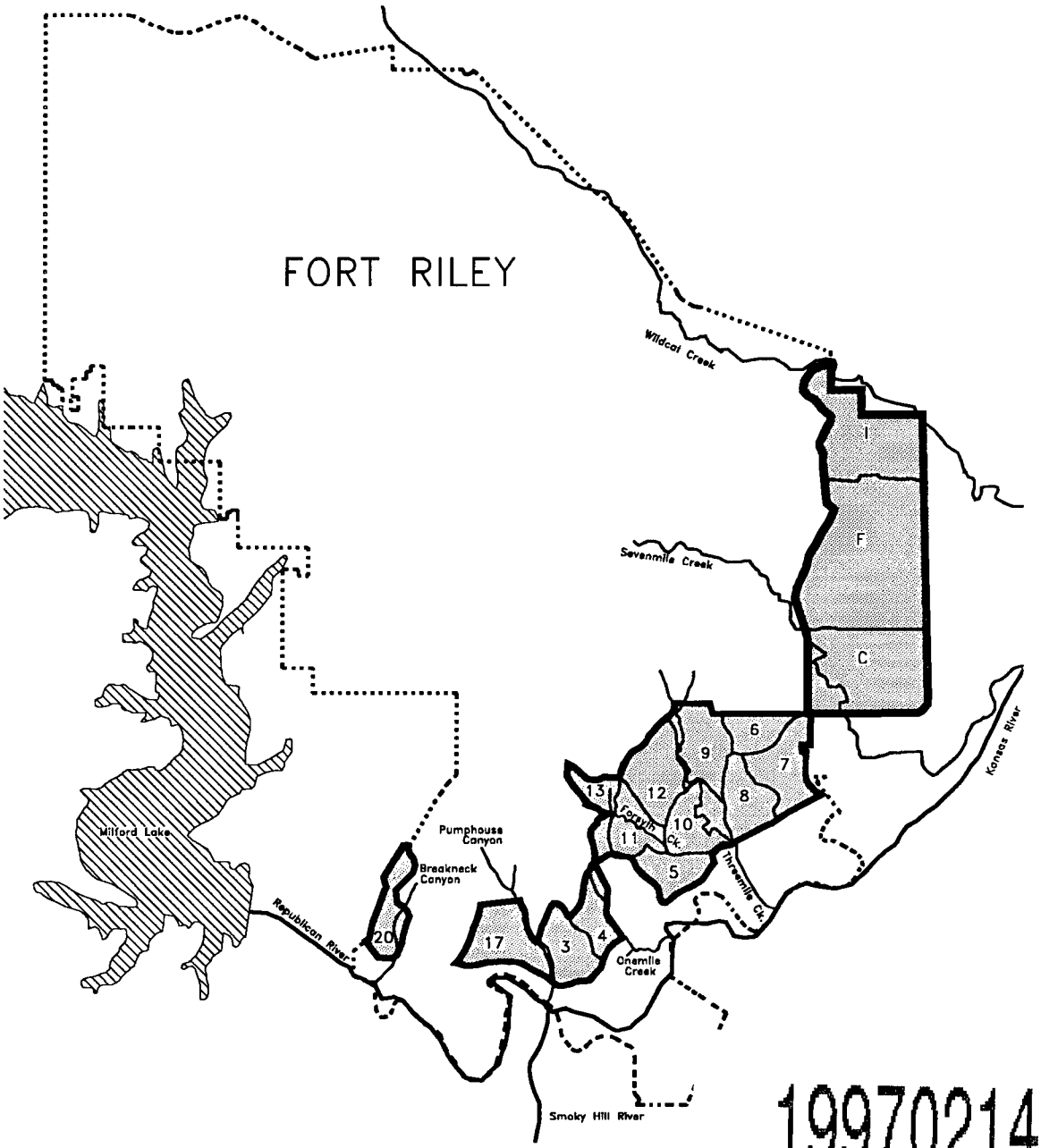
RESULTS OF A PHASE II ARCHEOLOGICAL INVENTORY OF FORT RILEY, KANSAS



Thomas K. Larson and Dori M. Penny

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Results of a Phase II Archeological Inventory of Fort Riley, Kansas

by

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and
Dori M. Penny

Report Prepared by

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421 South Cedar St.
Laramie, Wyoming

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A Phase II cultural resource inventory of approximately 14,000 acres within the Stage I and Stage II study areas at Fort Riley, Kansas resulted in the recording of 50 sites and 49 isolated finds. Seventy-three of these are prehistoric, 21 are historic, and five have both a prehistoric and a historic component. Of the 78 prehistoric components, three are from Middle Ceramic period, six are possibly Early Ceramic period Woodland, one may be late Archaic, and one is believed to be late Paleoindian. No cultural diagnostics have been recovered from any of the other prehistoric localities.

The results indicate that the uplands settlement model proposed for Milford Lake is not correct for the Stage I and Stage II study areas; there is actually a much higher density of prehistoric resources in the first terrace/flood plain zone. The basic USACERL model seems to be correct for the Stage I area but not Stage II. The section of the model dealing with site types in the low probability zone does not seem to be correct for either study area.

None of the isolated finds are regarded as eligible for nomination to the National Register of Historic Places. Nine sites are also not believed to be eligible. Six sites, 14GE329, 14GE3106, 14GE3107, 14RY46, and 14RY115, are believed to be eligible for nomination. Additional work is necessary to evaluate the significance of 35 other sites. The degree of present and anticipated impact at these sites is also evaluated.

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1

INTRODUCTION

BACKGROUND INFORMATION

This report documents the results of the Stage I and Stage II archeological investigations carried out at Fort Riley, Kansas. The report is a deliverable under Contract DACA41-95-C-0094 issued to LTA, Inc., Laramie, Wyoming by the U.S. Army Corps of Engineers, Kansas City District. The study performed herein by the Contractor for the Corps of Engineers is called for in the National Historic Preservation Act of 1966 (PL 89-665) as amended. Accomplishment of this work provides documentation evidencing compliance with Executive Order 11593 "Protection and Enhancement of the Cultural Environment" dated 13 May 1971, and Section 110 of the National Historic Preservation Act.

The contract calls for a Phase II archeological inventory of approximately 14,000 acres (ca. 5666 ha) on the post. The areas to be investigated under this contract have been designated for a change in land use from minimal use training areas to ones for more intensive use by mechanized equipment.

Fieldwork for the first half of the Fort Riley study (Stage I) was carried out in the fall of 1995. The Stage II investigations were carried out between March 11 and April 15, 1996. Stage I consisted of work within Maneuver Areas C, F, and I along the eastern boundary of Fort Riley. Stage II involved the survey of all of Training Areas 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 17, and 20 as well as approximately two-thirds of Training Area 13 (Figure 1).

Thomas K. Larson served as Principal Investigator and one of the Project Archeologists. Larson supervised all aspects of the Stage I fieldwork. Dori M. Penny served as the other Project Archeologist. Other LTA personnel participating in the fieldwork were Brian Beal, Karianne Cole, Clinton Crago, Keith Dueholm, Ross G. Hilman (crew chief), Cyndi Oliver, Sheila Powley, Dan Shiman, and Andrew Walter.

It is perhaps useful to briefly summarize the interrelationships between the LTA study and other ongoing cultural resource studies at Fort Riley. The primary emphasis of the present study is on the identification of *prehistoric properties*. While attempts were made to identify previously unrecorded historic period resources within the study area, the results contained in this report do not constitute a complete historic sites inventory. This is primarily due to the fact that the U.S. Army Construction and Engineering Laboratory (USACERL) has an active contract with the University of Illinois to identify historic farmsteads at Fort Riley. Prior to the initiation of the LTA survey work, 45 rural settlement sites had, because of the USACERL and earlier investigations, already been identified within the Stage I and Stage II study areas. Except to note their location, and thus avoid an unnecessary duplication of effort, no further work was carried out at these sites under the present contract. The limitations on the historic research carried out, the types of historic properties that were recorded, and the implications of these procedures for historic sites modeling are all discussed in other parts of this report.

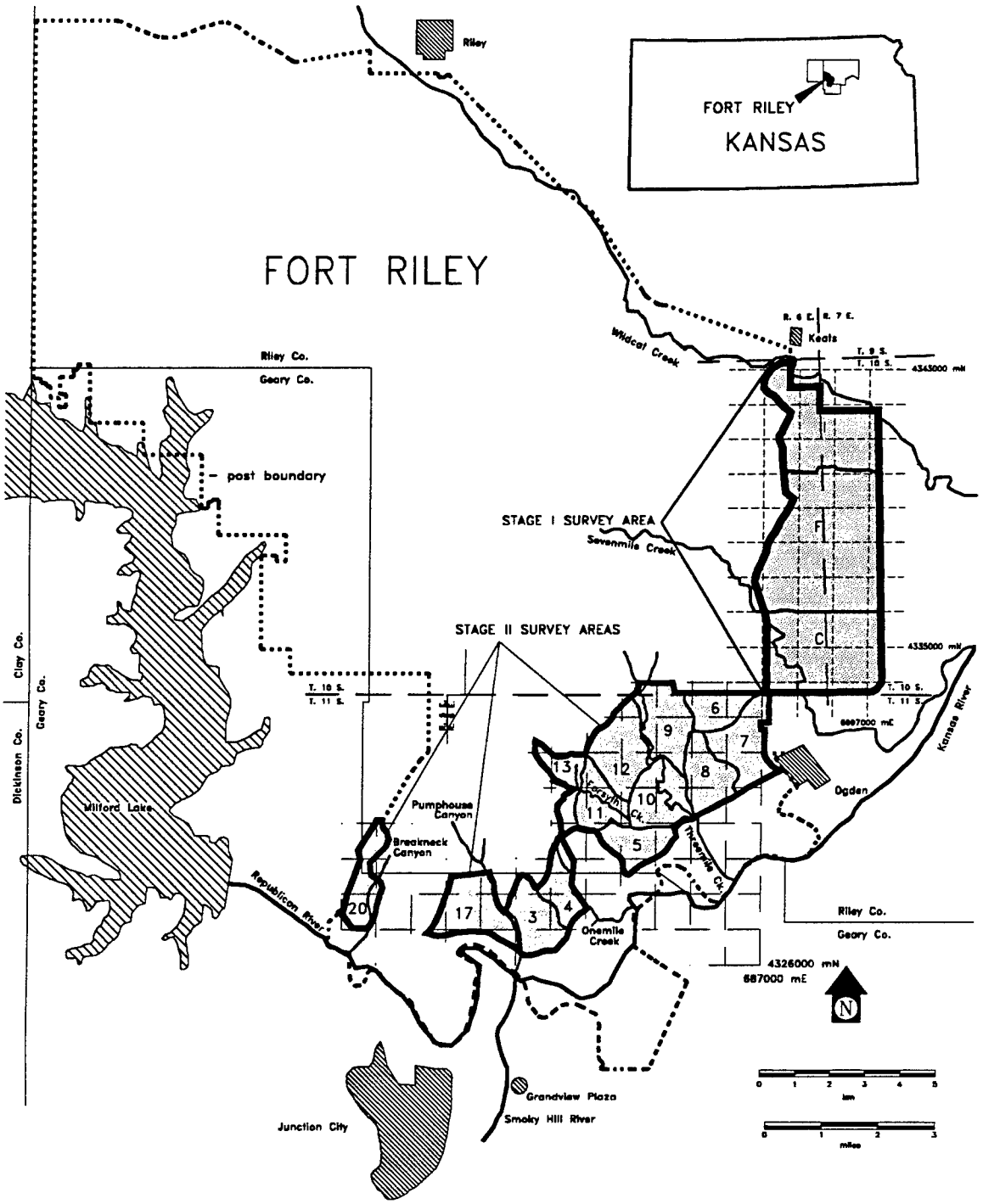

Figure 1. A map showing the location of Fort Riley within Kansas and the areas inventoried.

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ENVIRONMENTAL SETTING

Fort Riley is in northeastern Kansas, approximately 5 to 15 km west of Manhattan. The entire post is within the Flint Hills region of the Osage Plains section of the Central Lowlands physiographic province (Fenneman 1938; Jewitt 1941). Elevations on the fort range between approximately 340 and 410 meters above mean sea level.

This area of Kansas is within the lower part of the Kansas River basin. The Kansas River proper forms much of Fort Riley's southern boundary, while a portion of the Republican River, now impounded by Milford Lake, is along the post's western boundary. The Stage I study area (Figures 2 and 3) is drained by the main branches and tributaries of Wildcat, Sevenmile, and Dry Branch creeks as well as several unnamed drainages that flow directly into the Kansas River. The Stage II study area (Figures 4, 5 and 6) is drained by the main branches and tributaries of Threemile Creek, Forsyth Creek, Onemile Creek, Pumphouse Canyon, and Breakneck Canyon.

The terrain on Fort Riley is primarily a result of exposures of Permian limestone bedrock and stream channels filled with Pleistocene and Holocene alluvium. The scarp-forming Fort Riley and Florence limestones have created the upland hills and ridges of the project area. Chert seams within the Florence member are exposed in many places on Fort Riley. This chert is known to have been utilized as a source of raw material for the manufacture of chipped stone tools.

In many places, the westward-dipping limestone beds are mantled by loess from one or more named sequences. Of primary importance in the study area is the Peoria loess, a Wisconsin age deposit of well sorted very fine sand, silt, and clay (Johnson and Logan 1990). Possibly present in some areas above the Peoria is the younger Bignell loess. Nearly indistinguishable from Peoria (being from the same parent material), Bignell loess can sometimes be identified because of the presence of the Brady paleosol at the contact of the Peoria with the Bignell (Johnson and Logan 1990). Based on data from the Nebraska Sand Hills (e.g., Ahlbrandt et al. 1983), Johnson and Logan believe that younger, mid Holocene loess deposits are possible within the Kansas River basin, although it seems questionable if these would be detectable as far east as the Fort Riley project area. Within the uplands of the Stage I study area, loess deposition, when present, appears to be relatively thin. In many places in the uplands, the surface consists of exposed bedrock and regolith capped by a very thin band of modern soil.

Because the number and age of Pleistocene and Holocene terraces is of critical importance in understanding the potential age and condition of cultural deposits within the stream valleys at Fort Riley, it is important to understand what is currently known about the terrace sequence, as well as what is presently unknown. Downstream from Fort Riley, in the glaciated regions of the Kansas River basin, the alluvial terrace sequence in the main valley has been extensively studied and named: Menoken (late Kansan), Buck Creek (post-Kansan), Newman (late Wisconsin/early Holocene), and Holliday (late Holocene) (Davis and Carlson 1952; Johnson and Logan 1990). In the western two-thirds of the Kansas River basin, as well as up tributary streams, however, the applicability and/or utility of this sequence has been called into question.

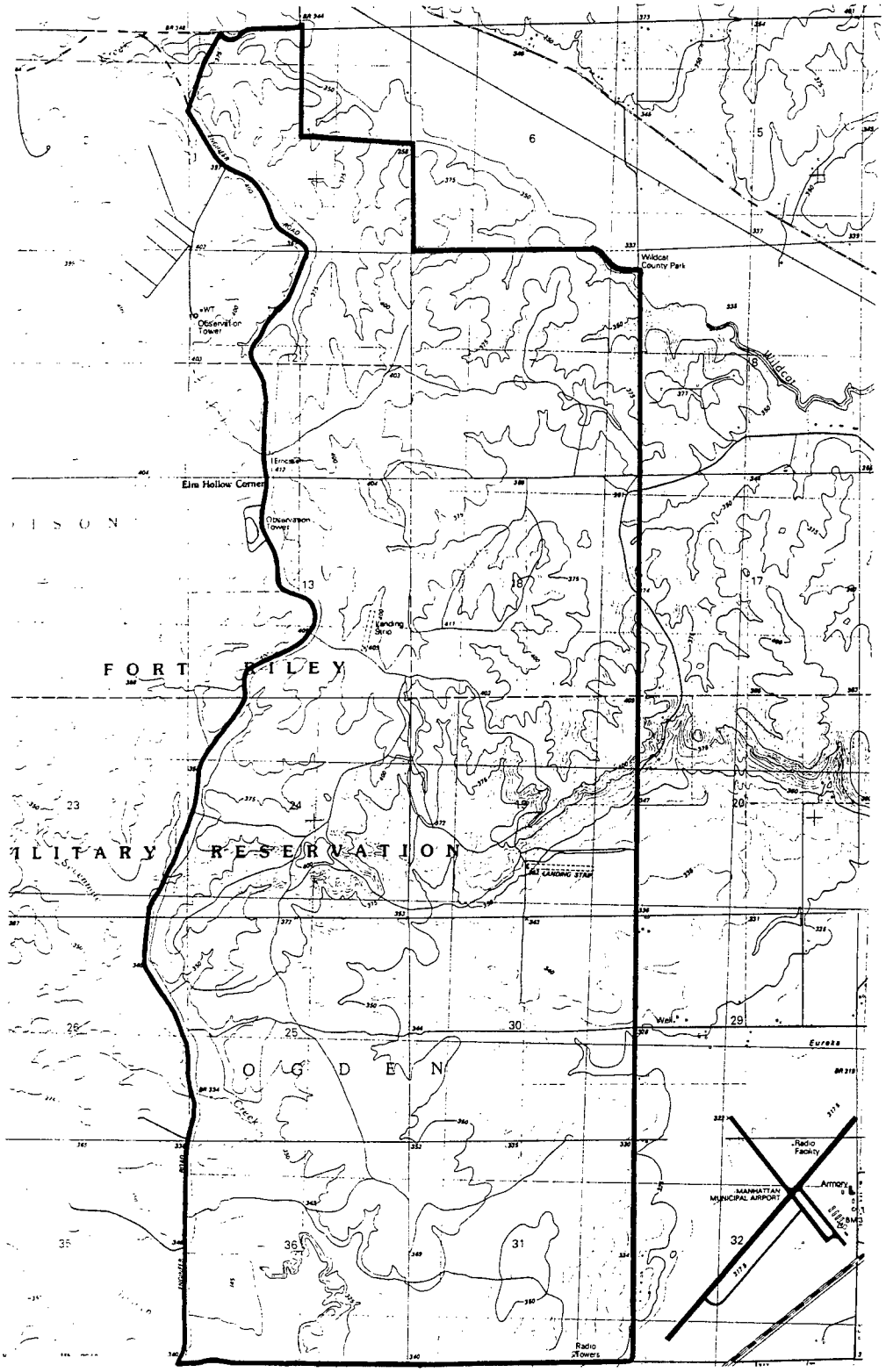
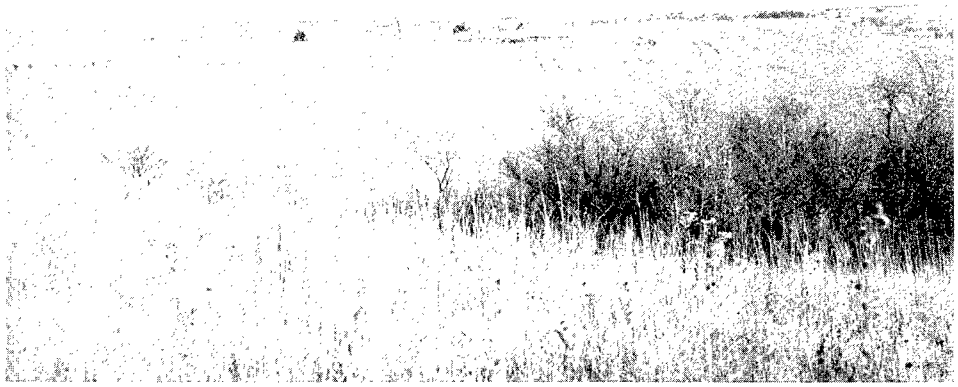


Figure 2. A portion of the USGS 7.5' Keats Quadrangle (50 percent reduction); the heavy line indicates the boundaries of the Stage I survey area.



a

b

Figure 3. Photos illustrating the uplands (a) and forested bottoms (b) of the Stage I survey area.

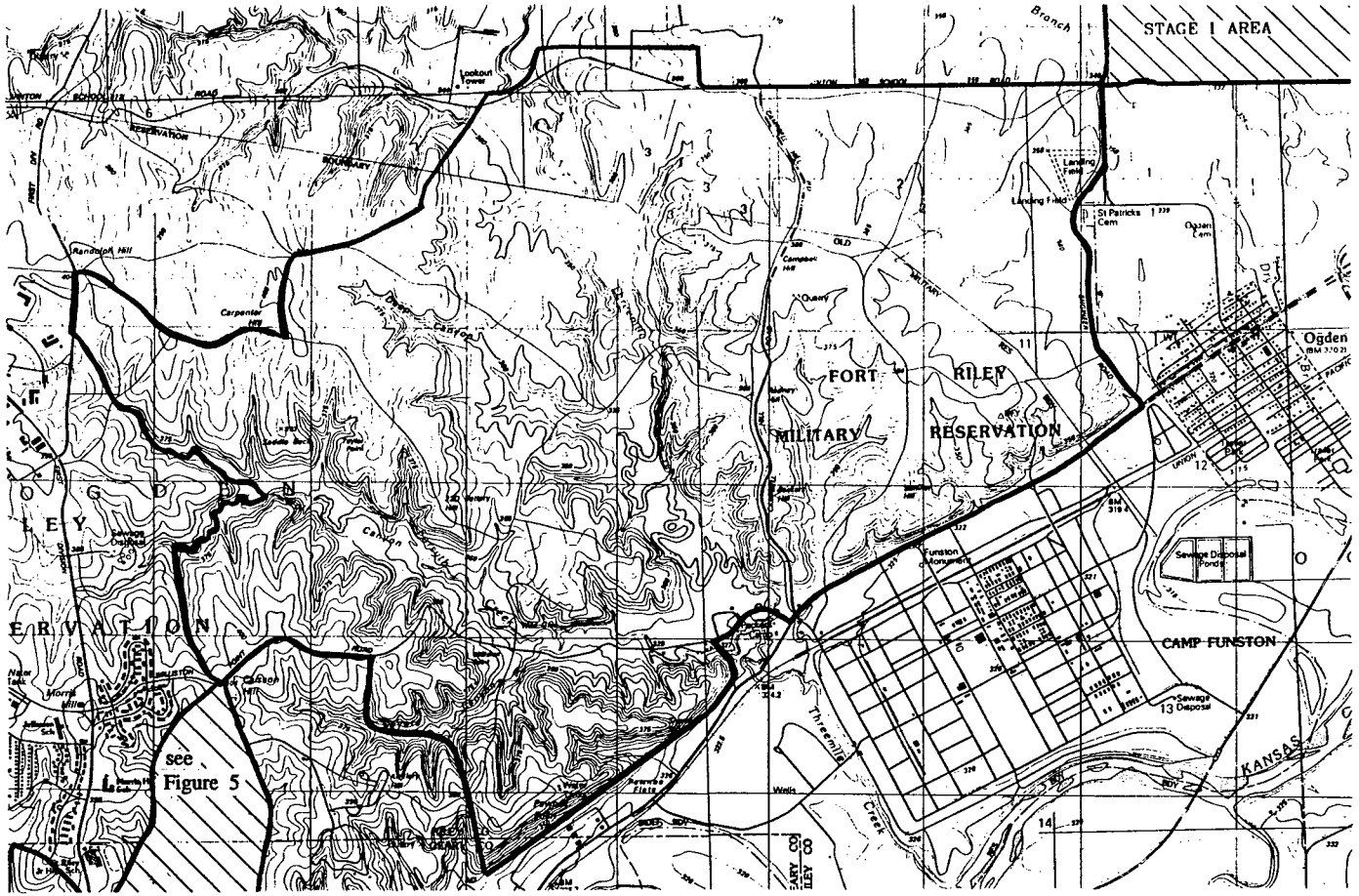


Figure 4. Portions of the Fort Riley NE, Keats, Ogden, and Junction City 7.5' Quadrangles (50 percent reduction) showing part of the Stage II survey area (see also, Figure 5).

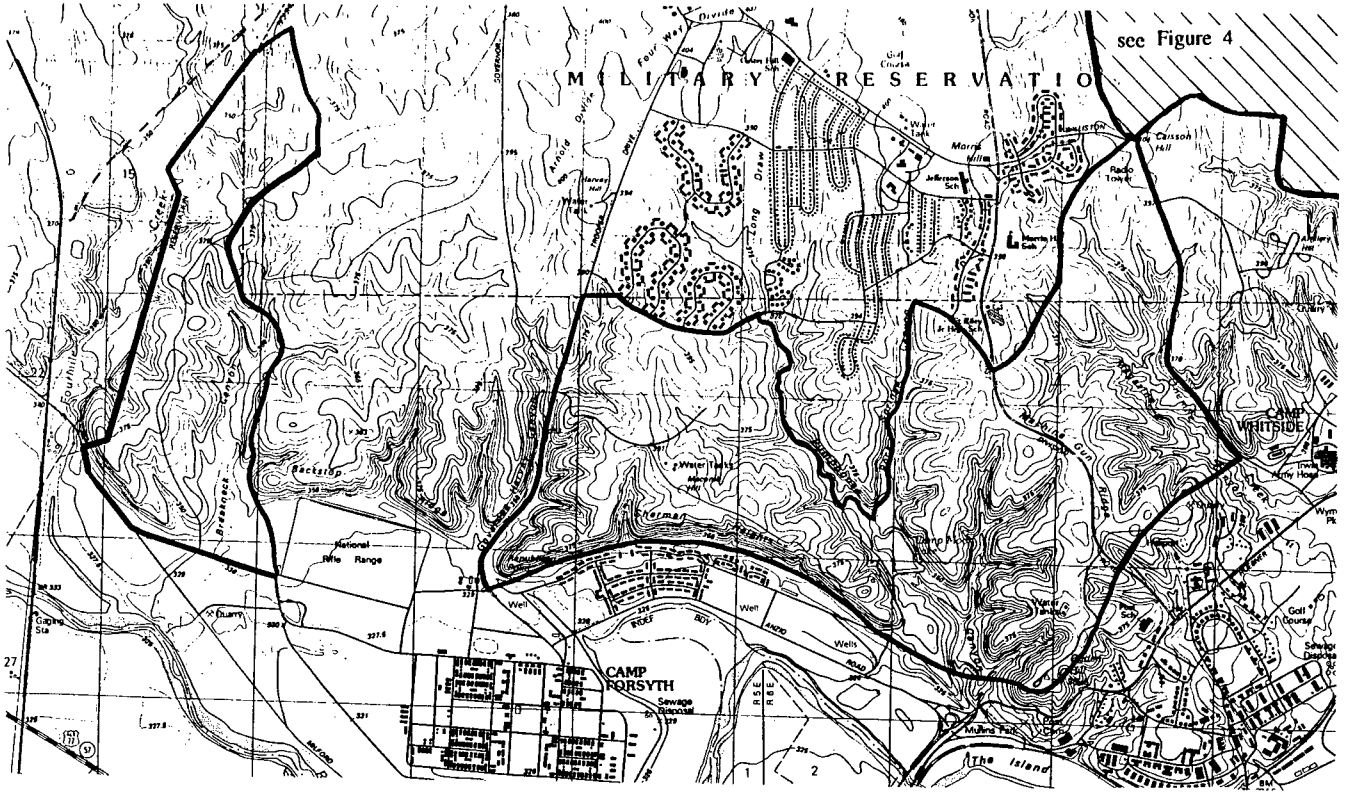


Figure 5. A portion of the Junction City 7.5' Quadrangle (50 percent reduction) showing part of the Stage II survey area (see also, Figure 4).

a

b

Figure 6. Photos illustrating the uplands (a) and forested bottoms of the Stage II survey areas.

> With the terrace system and fills best defined, especially for the late Pleistocene and Holocene, in the Kansas River of the lower end of the basin, there is a predictable tendency for subsequent studies to "force" observations into the established terrace nomenclature and age associations established in the Kansas River. . . .In most instances, two or three terraces are identified, and if a third is noted, it is usually presumed by the investigators to be no younger than late Pleistocene [Johnson and Logan 1990:279].

The same authors suggest that similarly positioned terraces may actually have formed earlier in the eastern part of the basin than in the western part.

> From the ages of the terrace fill . . . there appears to be an east-west gradient (that is, from older to younger) within the lower Kansas River basin. Based on recent geoarchaeological investigations in the Smoky Hill River valley, Mandel (1988) confirmed this trend in the upper portion of the basin. In the Kanopolis Lake area of that drainage, the T1 terrace fill along tributary streams dates to ca. 4,200 to 1,000 B.P. Thus sites buried below T1 in that portion of the Smoky Hill basin could range from the Late Archaic through the Plains Woodland periods. This contrasts markedly with the older age of the fill below the T1 terraces along tributaries of major streams in the lower Kansas River basin. In the main valley of the Smoky Hill River, T1 alluvium accumulated from at least middle Holocene time to between 2,600 and 1,650 B.P. . . .
>
> We suggest the contrast between ages of sites on the T1 surfaces in the eastern and western portions of the Kansas River basin reflects the greater probability for burial of ceramic-age sites in the western portion. In the eastern portion of the Kansas River basin, there generally was longer stability of the T1 terraces based on the frequent appearance of sites dating to at least the Plains Woodland and later periods. In the western portion, although as yet not adequately surveyed from a geoarchaeological perspective, the corresponding surfaces have a higher potential of containing sites of a younger time range. Archaeologists will need to account for this pattern when interpreting differences in adaptations of prehistoric populations between the short- and mixed- grass plains and the tall-grass and forest prairie ecotone portions of the central Great Plains [Johnson and Logan 1990:290-291].

Where the terrace sequences of tributary streams in the vicinity of Fort Riley fit into this proposed east-west age gradient is presently unknown. The present LTA study does not call for a detailed geoarcheological investigation and, to date, the archeological components discovered on the stream terraces have yielded only a few temporally diagnostic indicators. Within the portions of the stream valleys of Wildcat Creek, Sevenmile Creek and Threemile Creek, the modern floodplain and *at least* one higher terrace are easily recognizable. In places within the valley bottoms, however, there seems to be more than one surface identifiable above the floodplain. Whether these surfaces are, in fact, actual terraces remains to be demonstrated.

It is important to understand the type and extent of the Holocene deposition potentially present beneath the T1 terrace in the Kansas River basin. The following cultural and depositional sequence was discovered at the Coffey site in the valley of the Big Blue River:

> Five depositional units (Units I - V) have been identified beneath the T-1 surface at the Coffey site (Schmits 1980). Three of these deposits (Units III - V) have been radiocarbon dated. Unit I is the oldest T-1 unit which is butted against the T-2 terrace and is composed of stratified silty alluvium. The surface of Unit II is approximately 2 m beneath the T-1 surface and is marked by the truncated B horizon of a paleosol. A radiocarbon date of 6285 ± 145 years B.P. was determined on charcoal recovered for the upper part of Unit II. Unit III is a wedge-shaped deposit butted against the truncated face of Unit II. The Unit III sediments are the fill of a paleochannel of the Big Blue River which cut into the site sometime after 6285 years B.P. but before 5270 years B.P.

> Fourteen radiocarbon dates ranging from 4840 ± 95 to 5850 ± 135 years B.P. are available for this deposit. Unit III is truncated by Unit IV, a second paleochannel which cut into the site at a later date. Cultural horizons near the top of Unit IV yielded radiocarbon dates of 2320 ± 60 and 2480 ± 55 years B.P. Based on these dates, it was concluded that the buried soil developed shortly thereafter at approximately 2000 years B.P. (Schmits 1980).
>
> Unit V at Coffey is a thick floodbasin deposit which has buried Units II, III, and IV. The deposit is 2 m in thickness and is the result of valley aggradation (Schmits 1980). Although Unit V has not been radiocarbon dated, the presence of numerous small triangular corner-notched points on this surface at the Coffey site suggests that it was deposited sometime before 1000 years B.P., beginning perhaps soon after the termination of the Unit IV channel filling (Schmits 1980) [Schmits et al. 1987:211-212].

Although not yet discovered, the presence of deeply buried cultural levels, similar to those discovered at Coffey, cannot be discounted within the main tributary drainages on Fort Riley.

A small area along the eastern edge of the Stage I study area is within the main valley of the Kansas River. This area, approximately 20 meters above the modern floodplain of the Kansas, is a flat surface (now mostly cultivated) covered by primarily loess deposits. From its characteristics and position above the river, this is believed to be a segment of the Buck Creek terrace (e.g., Dort 1987).

The project area has a continental climate "characterized by warm to hot summers, cold winters, abundant sunshine, moderate winds, low to moderate humidity, and a pronounced peak in rainfall late in the spring and during the first half of the summer" (Jantz et al. 1975:67). The average precipitation is 31.6 inches (80.3 cm), 75 percent of which falls between April and September.

> Daily and annual temperature ranges are relatively large and show the effects of the continental climate. The transition from cold to warm seasons is rapid. The mean monthly temperature is 43.5° F. in March, whereas it is 55° in April. The change is even greater between the average 58° in October and the 44° in November. Temperature extremes at Manhattan for the entire period of record are -32° and 116° [Jantz et al. 1975:67].

The uplands of Fort Riley support a tall-grass prairie dominated by a bluestem community (Kuchler 1964). The vegetation of the wooded valley bottoms has been summarized by Largent and Waite (1995:10).

> Thickly wooded areas are common along waterways in the project area, and may be indicative of the recent encroachment of the Eastern Deciduous Forest into the project area. Ground cover consists of . . . grass and herbaceous species and various briars (*Rubus*), while the observed understory is dominated by sumac (*Rhus glabra* and *R. copallina*), and black (honey) locust (*Robinia pseudo-acacia*) and maple (*Acer* sp.) saplings. Overstory is dominated by large oak (*Quercus*) and hickory (*Carya*) species, and juniper (*Juniperus*), with the occasional cottonwood (*Populus* sp.), black walnut (*Juglans nigra*), sycamore (*Platnus occidentalis*), elm (*Ulmus*), box-elder maple (*Acer negundo*), hackberry (*Celtis* sp.), bois d'arc (*Maclura pomifera*) and larger black locust present. . .

Utilizing information from Barker (1969), Schmits (1978: Appendix 1) has identified a number of plants in the vicinity of the Coffey site that have been ethnographically documented as food sources. Schmits's listing, for an area that is fairly similar to the Fort Riley setting, lists the food plants within one or more habitats: aquatic (n = 7), floodplain

forest (n = 20), upland oak-hickory forest (n = 24), hillside breaks (n = 9), floodplain prairie (n = 3), and upland prairie (n = 10).

Mammalian fauna on Fort Riley have been summarized by O'Brien (1989:5-6) as follows:

> These vegetation communities support a large number of diverse fauna including major mammals like white-tailed deer (*Odocoileus virginianus*), elk (*Cervus canadensis*), bison (*Bison bison*), antelope (*Antilocapra americana*), raccoon (*Procyon lotor*), beaver (*Castor canadensis*), eastern cottontail (*Sylvilagus floridanus*), and jackrabbit (*Lepus californicus*).

One other common mammal on the post that is not mentioned by O'Brien is the opossum (*Didelphis marsupialis*). Schmits (1978: Appendix 2) discusses the modern fauna in the vicinity of the Coffey site and presents itemized lists of mammals, birds, reptiles and amphibians, and fish presently documented for the region.

A BRIEF DESCRIPTIVE CULTURAL HISTORY

Prehistoric and Protohistoric Overview

The Fort Riley project area is within the Flint Hills study unit as it is defined in the *Kansas Prehistoric Archaeological Preservation Plan* (Brown and Simmons 1987). Since this study unit crosses almost all of Kansas from north to south and contains many prehistoric cultures, it is perhaps best to focus on only those materials that relate directly to the northern part of the Flint Hills (i.e., the segment of the study unit containing Fort Riley). Table 1 is a summary of a prehistoric and protohistoric cultural chronology for the northern Flint Hills. Data to compile the table have been gathered mainly from Schmits et al. (1987) with some additions from sources discussed below.

Table 1. Archeological sequence for the northern Flint Hills.

Paleoindian period	
Llano complex	10,000 - 9,000 B.C.
Folsom complex	9,000 - 8,000 B.C.
Plano complexes	9,000 - 6,000 B.C.
Archaic period	
Early Archaic	6,050 - 5,050 B.C
Logan Creek phase/early side-notched tradition	3,350 - 2,550 B.C.
Black Vermillion phase	3,350 - 2,550 B.C.
El Dorado phase	2,050 - 1,050 B.C.
Walnut phase	550 B.C. - A.D. 50
Early Ceramic period	
Kansas City Hopewell	A.D. 1 - 500
Plains Woodland	
Schultz phase	A.D. 450 - 700
Middle Ceramic (Plains Village) period	
Smoky Hill variant	A.D. 1000 - 1425
Late Ceramic (Protohistoric/Historic) period	
Kansa	A.D. 1200 - 1700
Pawnee	A.D. 1500 - 1876

To date, sites from the Paleoindian period in Kansas are relatively rare. In the general vicinity of Fort Riley, Schmits et al. (1987:214-217) have documented the presence of probable Clovis, Folsom, Plainview, Dalton, possible Agate Basin, and Scottsbluff projectile points in the Big Blue and lower Republican valleys. Nearly all of these materials have been surface finds, however, and little or no evidence has yet been produced regarding stratigraphic position, artifact assemblages, or modes of subsistence at any of these locations.

As pointed out in O'Brien (1989:7), the Archaic is best known in Kansas from the sites in the Flint Hills. Although early Archaic lanceolate and both early and middle Archaic side-notched projectile points have been recovered at several localities in the northern Flint Hills (e.g., Schmits and Kost 1985; Schmits et al. 1987), most of these have been surface finds. The earliest well documented Archaic materials in the vicinity of Fort Riley are from the late Archaic. Most notably, the excavated deposits from the Coffey site, 14PO1, on the Big Blue River have yielded materials from the Black Vermillion and Walnut phases (Schmits 1978, 1980).

> The earlier Black Vermillion phase levels at Locality I of Coffey are characterized by a combination of notched and stemmed point forms and a smaller number of lanceolates with biconvex cross-sections similar to Nebo Hill points from western Missouri. . . . Radiocarbon dates on Black Vermillion phase components at Coffey range from about 5000 - 5300 years B.P. [Schmits et al. 1987:218].

The Black Vermillion components at Coffey are viewed as seasonal procurement camps whose hunting and gathering activities were an adaptation to drier climatic conditions during the late Altithermal.

> The subsistence activities of the Coffey occupants in late summer and fall consisted of a diffuse economy focused on the exploitation of plants and animals available from floodplain biotic communities. The most important procurement systems making up the subsistence pattern included the hunting of bison, deer, waterfowl, fish and the gathering of a number of wild seeds and berries of which chenopods were the most important . . . . [Schmits 1978:166].

Although more fully documented in the southern Flint Hills (e.g., Grosser 1973), El Dorado phase materials have been found on the surface at the Coffey site. Believed to be transitional between the earlier Chelsea phase and the later Walnut phase, the El Dorado phase appears to have developed a broad spectrum hunting and gathering economy adapted to post-Altithermal climates and environments similar to the present. El Dorado may also be the first instance of the use of the bow and arrow within the Flint Hills study unit (Brown and Simmons 1987). The subsequent Walnut phase is the last Archaic manifestation recognized in the Flint Hills and it may be transitional to later Woodland complexes. "The paleoenvironment of the Walnut phase is believed to have been characterized by an increase in precipitation at approximately 100 B.C., resulting in a tall grass prairie and expansion of tree growth" (Brown and Simmons 1987:XII-14).

The Early Ceramic period in the northern Flint Hills has two major constituents: Kansas City Hopewell and Plains Woodland. Hopewell materials are best known from sites in the vicinity of Manhattan (e.g., Wedel 1959, O'Brien et al. 1979).

> The complex is identified by Gibson, Steuben, Synder, and Ensor points; circular disk or blocky endscrapers; and globular ceramic jars often decorated with cross hatching, punctates, and rocker-stamping. The beginnings of agriculture in the Plains are associated with these people [O'Brien 1989:8].

Evidence from the Ashland Bottoms site suggests a fairly intensive occupation with 40 cm of midden deposit. O'Brien et al. (1979:18) suggest that the site could be the result of one of two possible patterns: 1) Kansas City Hopewell bison hunting, with the inhabitants returning to the Missouri Valley after procurement of meat or 2) Kansas City Hopewell people actually moving into the Manhattan area for permanent settlement.

The Schultz phase is the most important Plains Woodland manifestation in the vicinity of the project area. As with much of the Plains Woodland, the Schultz phase is typified by small hamlets or temporary camps and small, bluff top burial mounds. Johnson presents an interpretation of "eastern Kansas Late Woodland" settlement and subsistence that may be at least partially applicable to the present study area.

> Numerous small sites, situated on floodplain elevations or terrace remnants and in close proximity to perpetually flowing streams, contain one or two impermanent house structures, a few small storage facilities, and hearths either within or without the house walls. Faunal and floral remains indicate a hunting-and-gathering reliance on a wide variety of native plants and animals supplemented, at least late in the sequence, by horticulture based on corn, squash, and sunflowers. Artifact assemblages, limited in size and variety, are almost entirely representative of activities related to procuring and processing various subsistence components [Johnson 1987:390].

Specifically for the Schultz phase, no cultigens or house forms have yet been identified. What is known about the ceramics from the phase comes mostly from testing at the Elliot site (14GE303) (O'Brien et al. 1973) and 14GE41 (Parks 1978); they are conoidal vessels with plain or smoothed over cord marked exteriors, a variety of tempers, and exhibiting one of six potential rim forms (Brown and Simmons 1987:XII-20).

Although Upper Republican and Steed-Kisker influences have been demonstrated at a number of sites in the vicinity of Fort Riley, the preeminent Middle Ceramic variant within and near the study area is the Central Plains tradition Smoky Hill phase.

> Wedel (1959) described Smoky Hill sites as consisting of small hamlets with one or two houses on a small creek terrace . . . Wedel (1959) suggested that these semi-sedentary peoples depended upon a maize agriculture and hunting and gathering, a suggestion born out by more recent studies (Brown 1980; Adair 1984).
>
> Wedel's description seems generally accurate today, even after the considerable work undertaken at Milford and Tuttle Creek lakes. Most Smoky Hill sites are located along tributaries not far from their confluence with the Big Blue River and its major tributaries . . . Where information is available, it appears that sites extend further up the smaller tributaries [Schmits et al. 1987:226].

Besides excavations at a number of Smoky Hill sites at Milford Lake and Tuttle Creek Lake, another important component has been investigated at the C.C. Witt earthlodge and burial mound (14GE600) near Grandview Plaza (just east of Junction City). Using the lodge's floor pattern and artifact assemblage, O'Brien (1986) believed that the feature is a Smoky Hill phase observatory linked to the Morning Star ritual. If this interpretation is correct, it suggests strong links between the ceremonial and cosmological systems of the prehistoric Smoky Hill phase and the Pawnee.

The Griffing site, 14RY21, is a Smoky Hill settlement near the mouth of Wildcat Creek. Using ceramics from this site, Wedel (1959:183-185) has identified Riley Cord Roughened, the main ware found at most Smoky Hill sites. Hedden (1994) has recently completed a classification of Riley Cord Roughened ware into six rim types. A seriation

study using these types has led Hedden to conclude that there is a north-south directional trend in type frequencies at Smoky Hill sites along the lower Republican drainage.

Prior to the present investigations, archeological testing on Fort Riley had led to the identification of at least three Smoky Hill components. Rohn and Blasing (1986) recovered Smoky Hill materials from 14RY314 and 14RY411 on Wildcat Creek, while recent testing at 14RY3183 on Threemile Creek has revealed a dense subsurface component with ceramics and radiocarbon ages assignable to the Smoky Hill phase (Richardson and Dendy 1995; John Dendy, personal communication 1996).

During the Late Ceramic period, it appears that the Fort Riley area was utilized and/or inhabited by both the Pawnee and the Kansa. The Bogan site, 14GE1, is a small fortified village that may be the farthest downstream settlement of the Katkahahki or Republican Pawnee on the Republican River (Marshall and Witty 1967; Wedel 1986). The Kansa are known to have migrated up the Kansas River at least as far west as the Blue Earth site (14PO24), near Manhattan, by the early 1800s (Wedel 1959; Esry 1985). Wedel summarizes the probable settlement and conflict patterns between these two tribal groups in the Kansas River basin during the late eighteenth and early nineteenth centuries.

> The locating, or relocating, of the Republican Pawnees on the river that came to bear their name, would have offered some distinct advantages over their earlier locations on the Platte. Trade goods from either Fort de Cavagnial or, after 1764, from St. Louis, could be delivered on the Republican River without interference from the Otos living below the Pawnees on the lower Platte. . .Via the Kansas and Republican rivers, the Republican Pawnee villages could be supplied without trouble from the unfriendly Kansa Indians so long as that tribe resided on the Missouri, either at the Doniphan, Kansas, site or in the immediate vicinity of Fort de Cavagnial. Later, when the Kansa Indians moved their main village to the Kansas-Blue river junction near present Manhattan, Kansas, the Missouri and Nemaha rivers offered an alternative waterway relatively free of obstruction from meddlesome Kansa or Oto raiding parties [Wedel 1986:177].

History of the Area

Between 1826 and 1850, when the American military was establishing its presence at Jefferson Barracks, Fort Leavenworth, and Fort Atkinson, the Pawnee and the Kansa were still occupying the valleys of the Republican, Smoky Hill and Kansas Rivers. The relocation of eastern tribes, such as the Sauk and Fox and the Delaware, was also taking place. Increased pressure from various Native American groups (e.g., the Arapaho and the Cheyenne) on the major overland routes in the late 1840s and early 1850s made it clear that another military post between Fort Leavenworth and Fort Atkinson was needed. In 1852, Colonel T.T. Fauntleroy, formerly the commanding officer at Fort Leavenworth, wrote the Quartermaster General regarding the need for this post "at or near a point on the Kansas River where the Republican fork unites with it" (Pride 1926:60-61).

The site for Fort Riley, near the confluence of the Smoky Hill and the Kansas River, was selected in 1852 by a board of officers appointed by General U.S. Clarke (Pride 1926:61). The board included Captain E.A. Ogden and Captain L.C. Easton of the Quartermaster's Department, Captain C.S. Lovell, Sixth Infantry and Lieutenant J.C. Woodruff of the Topographical Engineers. The fort was initially called Camp Center; the name was changed after the death of Major General Bennett Riley in 1853 (Pride 1926:61).

Troops at Fort Riley were to protect travelers on the Santa Fe Trail, the Smoky Hill Road (Butterfield Overland Despatch) and the Oregon Trail (Pride 1926; O'Brien 1989; Zornow 1957). The route of the Oregon Trail went north of the fort through Marysville. The

Santa Fe Trail went south of the fort through Fort Zarah. The Smoky Hill Road went through Fort Riley, as did the Leavenworth and Pikes Peak Express (Townley 1994). The Smoky Hill Road, between the Missouri River and Denver, was the route used by the Butterfield Overland Despatch from 1864 to 1870.

> Kansas had been beating its publicity drums for the Smoky Hill route since 1858. There was a considerable savings in mileage over the Platte trail and emigrant outfitting meant prosperity for Missouri River trailhead towns . . . From 1859 to 1865 only a few greenhorns or well-escorted bullwhacker trains ventured onto the Smoky Hill Cutoff [Townley 1994:43-44].

Congress appropriated the first construction funds for Fort Riley in 1853. The area was opened for civilian settlement with the passage of the Kansas-Nebraska Act in 1854. Because of the highly politicized nature of the Kansas-Nebraska Act, eastern Kansas settled rapidly. Manhattan, Lawrence, and Topeka were settled by groups sponsored by abolitionists. Pawnee, now within the Fort Riley reservation, was settled by Southern sympathizers in September of 1854. Pawnee was the site of the first territorial legislature in 1855 (Zornow 1957; O'Brien 1989). Also in 1855, the Army forced the abandonment of the town after it was discovered that it was within the boundaries of the fort. A partial reconstruction of the First Territorial Capitol building is present at the site of Pawnee.

Other settlements were established at the same time or shortly after Pawnee. Junction City was founded in 1855; Ogden was settled between 1854 and 1856.

> Thomas Reynolds is credited with being the first settler in Ogden. He built a small log cabin in June, 1854, on a knoll a little east of where the iron bridge crosses Seven Mile Creek. Reynolds was also the first settler in Davis (now Geary) County. Dr. Daniel L. Chandler, the Reverend John W. Parsons, Benjamin Edmunds and Moses Walker were some of the earliest settlers of the town itself. They came there in the fall of 1856 and may be called the founders of the town. Much of the material for the first buildings was taken from the ruins of Pawnee [Pride 1926:109].

Percival G. Lowe, First Sergeant of Troop B, First Dragoons and later superintendent of transportation at Fort Riley describes a few other settlements in the vicinity of the post in 1855.

> There was no settlement in the immediate country. There was one family at the bridge across the Little Blue [probably the bridge across the Big Blue at the military road crossing; see Pride 1926:71], nineteen miles east, and a Catholic mission and Pottawatomie village of St Marys, fifty-two miles east . . . Captain Alley's store at Silver Lake, the Pottawatomie homes and the eating place at Hickory Point, finishes the list of settlements, save here and there at long intervals a squatter's shanty [Pride 1926:71-73].

Despite the lack of population perceived by Lowe, Kansas came close to reaching the congressional ratio of 93,420 residents and was admitted as a state in 1861 (Gates 1968:305-306).

By the time the enabling act for Kansas was passed, South Carolina had already passed an act of secession. By mid April, the United States and the Confederacy were at war. J.E.B. Stuart and Lewis A. Armistead, both stationed at Fort Riley, resigned their commissions to fight for the Confederacy (Pride 1926:143). During the Civil War, Fort Riley was mostly staffed by volunteer troops; the only permanent personnel were some of the non-commissioned officers, the sutler, and the chaplain (O'Brien 1989:12; Pride 1926:143). Large numbers of troops were stationed temporarily at the fort including the First Kansas and the Twelfth and Thirteenth Wisconsin (Pride 1926).

Despite the war, civilian settlement continued to increase throughout the 1860s. The passage of the Homestead Act in 1862 provided an increased opportunity to obtain land. Gates (1968:403) estimates that approximately 780,000 acres were ultimately acquired under homestead or preemption laws in eastern Kansas. This figure represents most of the 1,180,000 acres of unsold land in this area in 1862. By the time the railroad reached Ogden and Junction City in 1866, the eastern half of Kansas was substantially settled.

> By the early 1870s, markets in eastern Kansas became established and farmers had adapted their farming techniques to the Prairie-Plains environment . . . However, the depression of 1873 that resulted from overexpansion in agricultural production, railroad and land speculation and overextended credit coupled with the drought and grasshopper infestations of 1874 to 1876 slowed Kansas's growth until after the mid 1870s . . . In the 1880s, the economy quickly expanded, as railroads were extended across the state, numerous communities were platted, land values rose, and the price of corn and wheat peaked. Except for a minor setback in 1883 and the instability of farm prices, Kansas' economy continued its growth until 1890 [Schmits et al. 1987:160].

The Plains states were favored destinations for emigrant companies during the last quarter of the nineteenth century. The Welsh Land and Emigrant Society of America established the Powys Colony north of Junction City in the 1870s (Zornow 1957:178). Benjamin Singleton, a former slave, led groups of Black settlers from Tennessee to Morris County from 1873 to 1878 (Richmond 1974:162-163). Former slaves, known as exodusters, also settled near Manhattan and in Wabaunsee County in the 1880s.

In 1887, the Army established cavalry and artillery schools at Fort Riley (Pride 1926). The act establishing the schools provided that

> . . . a permanent school of instruction for drill and practice for the cavalry and light artillery service of the Army of the United States, and which shall be the depot to which all recruits for such service shall be sent; and for the purpose of construction of such quarters, barracks, and stables as may be required to carry into effect the purposes of this act the sum of two hundred thousand dollars, or so much thereof as may be necessary, is hereby appropriated . . . [Pride 1926:194]

The construction of these buildings, and the concomitant influx of additional military personnel and their families created an economic boom in Junction City and the surrounding area. Other improvements to the fort, such as the grading of the parade ground, were also completed during this time.

Many of the buildings and fences in the immediate area of Fort Riley, as well as on the fort itself, were constructed from locally available limestone. The government used private contractors (e.g., Pride 1926) to quarry stone both on and off the post. The proximity of the limestone quarry (14RY5105) recorded as a result of this inventory to the town of Keats probably indicates that it supplied the civilian market. Keats (see Figure 1), originally known as Wildcat, was a small market center by the early 1860s (Slagg 1968; Largent and Waite 1995:40).

The Seventh Cavalry was stationed at Fort Riley between 1887 and 1894. In 1890, troops of the Seventh under Major Samuel Whitside nearly wiped out Big Foot's band of Lakota during a council on Wounded Knee Creek near the Pine Ridge Agency in South Dakota. This was the last major confrontation between the military and Native Americans.

Fort Riley continued to grow during the 1890s and early 1900s. The Army's presence was temporarily reduced and the cavalry and artillery schools closed as a result of troop deployments during the Spanish American War. Both schools were reopened in 1901

(Pride 1926). George S. Patton and Jonathan Wainwright were graduates of the cavalry school.

During the early twentieth century, many farms were consolidated to increase their profitability. Steam and gasoline powered machinery began to replace horse drawn equipment in the years prior to World War I. Farm product prices soared after the United States entered the war and land values increased. Many farmers continued to enlarge their farms in reaction to higher prices. The fall in prices subsequent to World War I created some of the economic instability that culminated in the Great Depression.

Fort Riley was one of the 32 mobilization centers established after the United States entered World War I. Camp Funston was established as a temporary cantonment immediately prior to World War I. A total of 1,401 buildings were constructed in a three month period at the camp (O'Brien 1989:15).

Large scale unemployment, falling farm product prices, and the environmental hardships of the Great Depression adversely affected the area surrounding Fort Riley. The hardships of the Great Depression were not alleviated until the military-industrial buildup just prior to and during World War II.

In 1939, President Franklin D. Roosevelt declared a limited state of emergency and issued an Executive Order authorizing an increase in the strength of the Armed Forces. At Fort Riley, Camp Funston was reactivated. Camp Forsyth was established as a cantonment and later served as the Cavalry Replacement Training Area. In 1942, the Army purchased a tract north of the existing fort for increased training activities. The Stage I project area is within this 1942 expansion area (O'Brien 1989:Map 1).

In 1949, the Army eliminated the horse cavalry. An Officer Candidate and a Ground General School were established at Fort Riley in the early 1950s. The First Infantry has been stationed at Fort Riley since 1955.

2

RESEARCH ORIENTATION

RESEARCH DESIGNS FOLLOWED IN THIS STUDY

The scope of work for Contract DACA41-95-C-0094 for this project specifically states that "Two research designs, one for Fort Riley and one for Milford Lake, will be used for this contract. No new research design will be developed." The University of South Dakota's (1993) *Research Design for a 1993 Cultural Resources Inventory at Milford Lake in Geary, Clay, Dickinson and Riley Counties, Kansas* proposed 11 areas of research within three general research domains - Culture History, Settlement and Subsistence, and a Predictive Model. These areas of research can be summarized by nine research questions and two propositions, or tentative assumptions, that are based on prior investigations at Milford Lake:

Culture History

1. Are Paleoindian sites present?

2. Is there evidence of Early and Middle Archaic sites?

3. Can the temporal position and social relationship between complexes of the Early, Middle, and Late Ceramic be clarified?

4. Are Protohistoric sites present that are potentially linked to the Pawnee?

Settlement and Subsistence

5. Where are the winter, spring, and early summer Archaic sites? How do these patterns compare to adjacent areas such as western Missouri or the High Plains?

6. Do Plains Woodland groups represent a continuity with the earlier Archaic groups?

7. What is the Woodland settlement pattern and what is the degree of sedentism among Plains Woodland groups?

8. Were the Plains Village sites found in tributary stream valleys occupied year round or on a seasonal basis?

9. What role did microenvironments play in the settlement and subsistence patterns of prehistoric peoples in eastern Kansas?

Predictive Model

10. There should be a disproportionate number of sites on upland terrain. Overall, the prehistoric components should mostly be on the uplands with smaller numbers at T-1 (i.e., the first terrace above the modern floodplains) locations. Plains Archaic and

Plains Woodland components will be in the upland, while Plains Village sites will be on the T-0 (i.e., floodplain) and T-1 terraces. Historic sites should be in primarily upland locations.

11. If deeply buried sites exist, core testing may delimit such deposits.

While the Geo-Marine, Inc. survey work at Fort Riley had a set of basic investigative goals (recording, evaluating, and treating cultural resources), as originally written, their *Proposed Research Strategy for a Field Test of the Probability Model for Cultural Resources at Fort Riley, Kansas* (Largent 1994) has one basic research strategy -- "Field testing the validity of the model of cultural resources probabilities devised for Fort Riley, Kansas by USACERL." In the resultant report for the same survey project, Largent and Waite (1995:89) summarize the main constituents of the USACERL model.

> In the early 1990s, USACERL developed a prehistoric site probability model specifically for Fort Riley, using previously recorded geographic and archeological information. This information was transferred to the Geographic Resources Analysis Support System (GRASS), USACERL's UNIX-based Geographic Information System (GIS), where it was used to construct maps of geographic and artificial features, slopes, soil types, and archeological site distributions for the entire base. These maps were then used to develop the model as it exists today.
>
> The USACERL model is based on a number of features. Chief among these is distance from and above a reliable water source (usually a perennial stream). The model also suggests that sites are least likely to occur on steep slopes on uplands far from water. Short-term activity areas, including food extraction sites, kill sites, and lithic procurement/chipping stations are the types of sites most likely to occur in the low probability zones; however, these types of sites, as well as long-term habitation sites, are predicted to be most common in the high probability flood plains areas where water is easily available.

The probability zones from the USACERL model for the Stage I and Stage II study areas are shown in Figures 7 and 8.

When applying these two designs to the present study, it is important to understand certain limitations and assumptions that are inherent within the scope of work. Primary among these is the fact that the current study is aimed at locating prehistoric properties. As explained in Chapter 1, a historic farmstead study is currently being performed on all of Fort Riley and, for this reason, resources of this type are not part of the LTA study. While certain types of historic resources were recorded, the removal of nearly all farmsteads from the inventory effort effectively eliminates any consideration of historic era resources from the research orientation.

Although not removing them completely from consideration, the level of the current investigations (i.e., Phase II survey) also limits the amount of data gathered on research topics dealing with such questions as absolute age, season of use, subsistence strategies, and degree of sedentism - topics better addressed through extensive testing and excavation programs at selected sites. A more realistic goal is to attempt to identify the sites that, through more detailed investigations, might contribute to our understanding of these types of topics.

The testing procedures employed during present investigations were intended to either overcome surface visibility problems (i.e., heavy ground cover) or recover descriptive data from identified site locations. As such, no coring or other forms of deep testing were undertaken to identify or "delimit" deeply buried archeological resources.

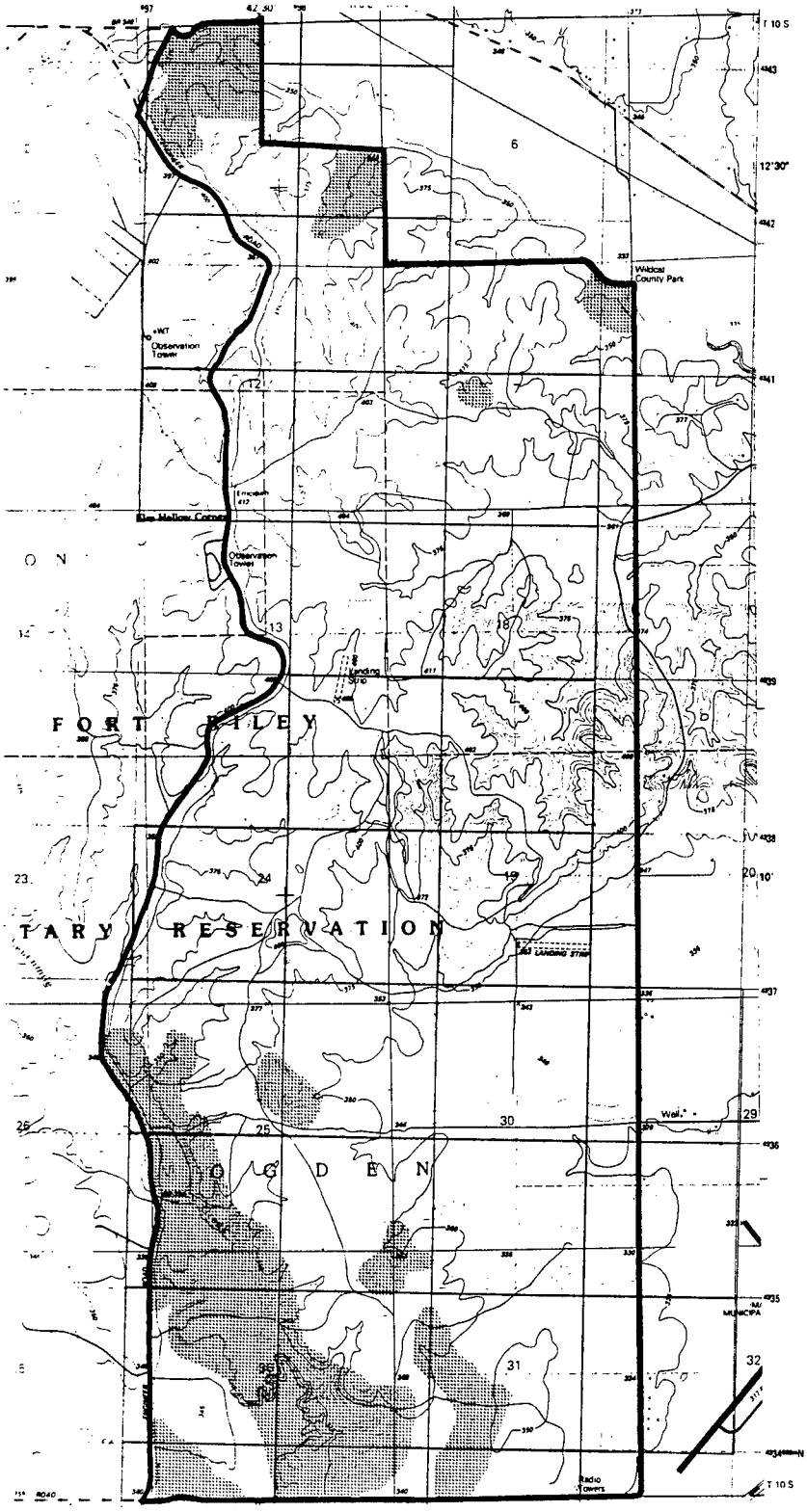


Figure 7. A portion of the USGS 7.5' Riley Quadrangle (50 percent reduction). The hatched areas indicate the USACERL high probability zones; all other areas within Stage I are low probability.

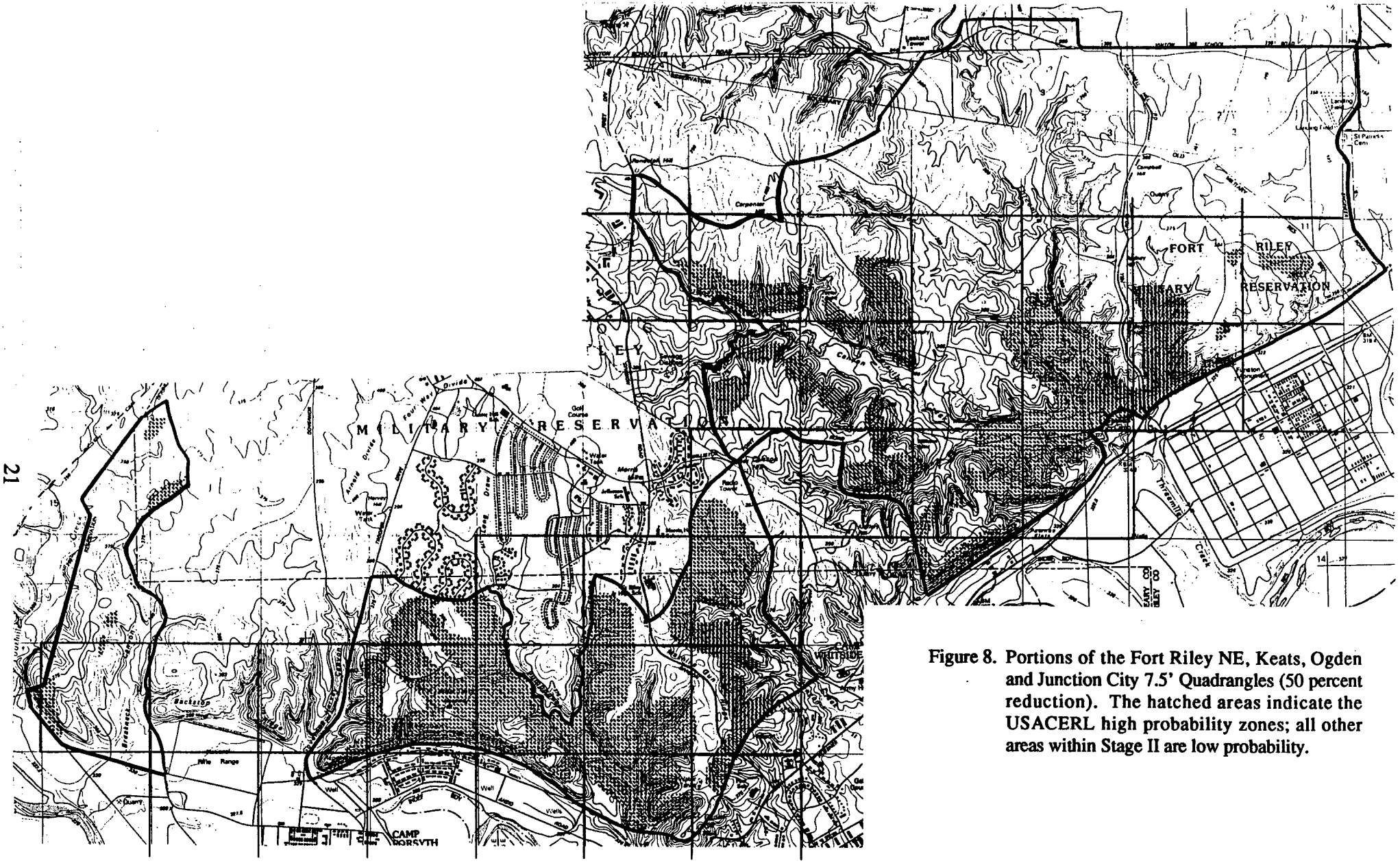


Figure 8. Portions of the Fort Riley NE, Keats, Ogden and Junction City 7.5' Quadrangles (50 percent reduction). The hatched areas indicate the USACERL high probability zones; all other areas within Stage II are low probability.

With respect to the USACERL model, no attempt has been made during the current investigations to refine or modify the probability zones or gather site-specific variables (e.g., distance from water) that were apparently used in the construction of the original model. For the purposes of the present study, the USACERL high and low probability zones are assumed to be accurately depicted; we are simply attempting to ascertain: 1) whether or not these zones can be used to predict prehistoric site densities and 2) whether or not prehistoric site types found in the low probability zone match the expected functional types (i.e., "short-term activity areas, including food extraction sites, kill sites, and lithic procurement/chipping stations").

PREVIOUS INVESTIGATIONS

A complete summary of cultural resource investigations on Fort Riley has been compiled by O'Brien (1989) and updated by Largent and Waite (1995). What follows is a summary of past investigations that relate directly to the Stage I and Stage II study areas. The information on these past studies was gathered from data on file at the Directorate of Environment & Safety at Fort Riley. Copies of site forms for some previously recorded archeological sites were also obtained from the State Historic Preservation Office at the Kansas State Historical Society. The cultural resources from previous investigations are presented below roughly in the chronological order of the original citations or the age of the archival documents.

Although W.J. Griffing's 1903 map of burial mounds and village sites in the vicinity of Fort Riley indicates an "Indian Village Site" on Sevenmile Creek, other cultural and geographic landmarks on the same map clearly indicate that the site (14RY48) is, in fact, on Threemile Creek (O'Brien 1989:Map 8). The location is therefore outside the Stage I inventory area. Griffing's map also indicates the presence of five mounds in the Stage II study area. These properties were assigned the site numbers 14GE142, 14GE143, 14GE144, 14RY46, and 14RY47 by O'Brien (1989). Three of these five mounds are believed to have been relocated during the 1996 investigations and are discussed in Chapter 4.

As discussed by O'Brien (1989), Cletus J. Wegandt collected artifacts along Wildcat Creek and other drainages west of Manhattan during the first half of the 1900s. The notebooks and maps compiled by Wegandt, and now housed at the Archeology Lab at Kansas State University, were used by O'Brien to assign state site numbers to many locations in and near the northern and southern boundaries of Fort Riley.

None of Wegandt's locations on Wildcat Creek appear to be within the Stage I survey area. Although one of the site numbers (14RY1619) for "Habitate U" is shown on O'Brien's (1989) Map 5 as being within the boundaries of the post (in the northeastern corner of Training Area 31), the State of Kansas Archeological Site Form for the 14RY1619 clearly indicates that it is a cairn "just outside Ft. Riley."

Wegandt also explored Sevenmile Creek and identified at least three areas with artifact concentrations. A page from his notebook, presented by O'Brien (1989) as Map 10, contains the following text regarding these locations (indecipherable words are indicated by question marks within brackets):

Seven Mile Habitat: Gordon Farm and vicinity near Ogden

> Located about 2 miles or so NE of Ogden . [?] . on the benches and knolls of Seven Mile Creek bottom land. Gordon Farm yielded the best on a mound extending due north of the house. Here the fine chip work was done as the numerous small and well-made bird arrows that have been found prove only too well. The . [?] . and rough stone work was done farther to the east side and up a gentle . [?] . from the mound. A large village was once located on the Dixon Ranch (Mark's place) but it has been hunted so heavily that it is depleted apparently of its relics.

O'Brien interprets these notes and the sketch map that accompanies them as follows:

> Finally, the last group of sites, belonging to habitate "O" . . . are important for this survey. Habitate "O" has three sites 14RY1615, 14RY1616 and 14RY1629, on the lower floodplain of Seven Mile Creek just north of Ogden and old Highway 40. Site 14RY1615 is just south of the fort's boundary, but the other two sites are on fort land. Their locations point to their being habitation sites [O'Brien 1989:73].

It is possible that 14RY1616 is the same locality as a site recorded as 14RY115 by McDowell and McGowan (1993) and investigated again in 1995 during the Stage I inventory work (see discussion below and Chapter 3). The other site number assigned by O'Brien, 14RY1629, is farther to the north and on the west side of the creek. Although several prehistoric sites were recorded in this general vicinity in 1995, none of these can be conclusively linked to Wegandt's accounts. One plausible match is with a large scatter of prehistoric debris recorded as 14RY5144 (see Chapter 3).

A cursory archeological survey of approximately 30,000 acres in the southeastern portion of Fort Riley was carried out in 1976 (Barr and Rowlinson 1977). Within the Stage II study area, the only site recorded during the earlier investigation is a burial mound, 14GE329. This site was rediscovered in 1996 during the Stage II inventory work and is discussed in Chapter 4.

A survey of historic structures and ruins was carried out in Fort Riley's training areas in 1978 (Cooprider 1979). Cooprider identified 19 sites in the Stage I area and 6 sites in the Stage II area. All of these localities have been revisited during the ongoing USACERL farmstead study and assigned state site numbers. No further studies were undertaken at these sites during the LTA inventory work.

In May of 1992, a Phase I sample survey was undertaken by the University of Illinois, Urbana-Champaign in areas of high visibility on the post (McDowell and McGowan 1993). Within the Stage I study area, the areas inspected were the cultivated fire breaks and fields along the eastern and southern boundaries of the fort. Six sites were recorded in these areas: 14RY115, 14RY116, 14RY117, 14RY122, 14RY124, and 14RY125. Of these, prehistoric sites 14RY115 and 14RY117 were relocated and recorded by LTA crews in 1995, with the boundaries of 14RY115 being considerably expanded. No evidence was found of prehistoric site 14RY116 but another area, 14RY5149, was recorded in relatively undisturbed grassland immediately to the north of that locality.

Historic sites 14RY122 and 14RY125 were found during the LTA inventory work but not further investigated because they are part of the USACERL farmstead study. Historic site 14RY124 was not found at the location indicated on the 1992 site form. The USACERL investigators also did not find any materials at this location (David Babson, personal communication 1996) and it seems that the site may have been misplotted. Although it is impossible to be completely certain, it is likely that this historic debris scatter is actually the same site recorded as 14RY5154 in 1995 (see Chapter 3).

Within Stage II, the University of Illinois, Urbana-Champaign study inspected survey tracts 14, 15, 16, and 17 in Training Area 7 and survey tracts 36 and 37 in Training Area 20 (McDowell and McGowan 1993:15). No cultural resources were recorded in these tracts during the 1992 study.

The recording work being undertaken by various USACERL studies has resulted in the recording of six other sites within the Stage II study area. Sites 14RY3172 and 14RY3173 are military era historic sites. Because of the findings during the LTA studies, it has been recommended that the boundaries of 14RY3172, a rifle and pistol range, be expanded. In the portion of Packers Camp (14RY3173) inspected in 1996, no additional data were discovered to add to the original site recording. Sites 14GE183, 14RY3184, and 14RY3185 are prehistoric sites recorded during geoarcheological investigations on the post. All three of these sites were revisited by LTA crews in 1996 and are discussed in Chapter 4. Site 14RY3180 is another prehistoric site. Since this property has been extensively tested and its National Register eligibility has been assessed (personal communication, John Dendy, March 1996), no further work was carried out at this location by the LTA investigators.

Finally, some mention must be made of 14RY34. The location of this site is shown by O'Brien (1989:Map 5) as being in the northeastern part of the Stage I study area, along the left bank of Wildcat Creek. O'Brien (1989:68-73), however, does not discuss 14RY34 within the summary of Riley County sites on the fort. Information supplied by the Kansas State Historical Society indicates that 14RY34 is actually well outside of Fort Riley, to the east of Manhattan and south of the Kansas River. How the site came to be plotted on Map 5 is unknown.

METHODS

Field Investigations and Recording Procedures

Contract DACA41-95-C-0094 calls for "Phase II Archeological Investigations," a term used by the Kansas Historic Preservation Office to denote both field reconnaissance and intensive survey (Brown and Simmons 1987:B-2 - B-7). The Scope of Work further clarifies the level of effort as "an intensive, systematic, detailed on-the-ground field inspection sufficient to permit determination of the number and extent of the properties present, their scientific importance and the time factor and cost of testing them for National Register eligibility."

The preceding section describes the cultural resources that were known or suspected to exist in the Stage I and Stage II study areas prior to the initiation of the LTA fieldwork. In addition to new discoveries, these previously noted locations (with the exception of historic farmsteads) were examined to determine if evidence of cultural activity could still be detected.

The field investigations were accomplished through a combination of surface inventory, shovel testing, and test units. In areas where surface visibility was sufficient to view the ground surface, inventory work was carried out with field personnel walking 20 meters apart. This technique was applied to the upper grasslands, cultivated areas, and to narrow drainages where terrace development is minimal (i.e., very little level terrain). The surface inventory work was carried out through a combination of transects on cardinal directions and, in areas of broken terrain, transects following natural contours. Special attention was also given to examining cutbank exposures, vehicle ruts, and other areas of

vertical or horizontal ground exposure.

Where employed, shovel testing used to discover archeological sites was conducted at 20 meter intervals. Approximately 5800 shovel tests were excavated in the Stage I study area (Figure 9), while approximately 5500 shovel tests were excavated within the Stage II study area (Figure 10). These tests were approximately 30 cm in diameter and, depending on the characteristics of the matrix, from 10 to 40 cm in depth. All matrix from shovel testing was screened though one-quarter inch (6.35 mm) mesh.

In some locations, especially within the northeastern parts of the Stage I area, the utility of shovel testing became quite questionable even when the surface was partially obscured by prairie grasses. This problem is due to the thin soil development and the amount of naturally outcropping chert and limestone in these areas. Shovel tests in such areas could not penetrate the ground surface to any appreciable depths and they recovered only large quantities of fragmented limestone and chert. Although shovel testing was attempted in a number of these rocky areas, it was generally abandoned because the technique was time consuming and proved to be a very poor means of finding cultural resources.

The uplands of the Stage II study area tend to have a much denser grass cover than was encountered within Stage I. Because of this, in nearly all of the areas subjected to standard surface inventory within the Stage II study area, an attempt was made to clear away any ground cover and inspect the bare ground for artifacts. This ground clearing, approximately 50 cm in diameter, was done with a shovel every 20 meters along the survey transects.

Once a cultural resource was identified, boundaries were determined using close interval surface inspection, shovel testing, or some combination of both techniques. Shovel testing to identify boundaries was carried out either along single transects or on a grid system. Individual transects were usually used in areas where portions of the surrounding terrain were exposed due to good overall ground visibility, vehicle ruts or erosional features. Under such circumstances, a transect of shovel tests was employed to determine if buried cultural materials might be present in adjoining vegetated or undisturbed areas. Shovel tests along transects were excavated at five meter intervals.

Shovel testing grids used to determine cultural resource boundaries employed either a 5 or 10 meter spacing between individual shovel tests. The determination of whether to use a 5 or 10 meter grid was largely judgmental, based on the expected density of artifacts as well as the size of the terrain feature potentially containing the site deposits.

Cultural materials recorded during this project are referred to as either sites or isolated finds. Isolated finds are defined as three or fewer artifacts at the same location. Sites are defined as locations containing four or more artifacts or an identifiable cultural feature. In using these definitions, no distinction was made between surface and subsurface materials. All cultural materials found within 30 meters of each other were considered part of the same site or isolated find. In a few instances, this distance was widened slightly to include intervening sediments that likely contain undiscovered cultural materials.

From an analytical standpoint, very little distinction has been made between materials defined as sites and those defined as isolated finds. In most cases, the term "site," as it is used throughout much of this report, refers to both kinds of properties.

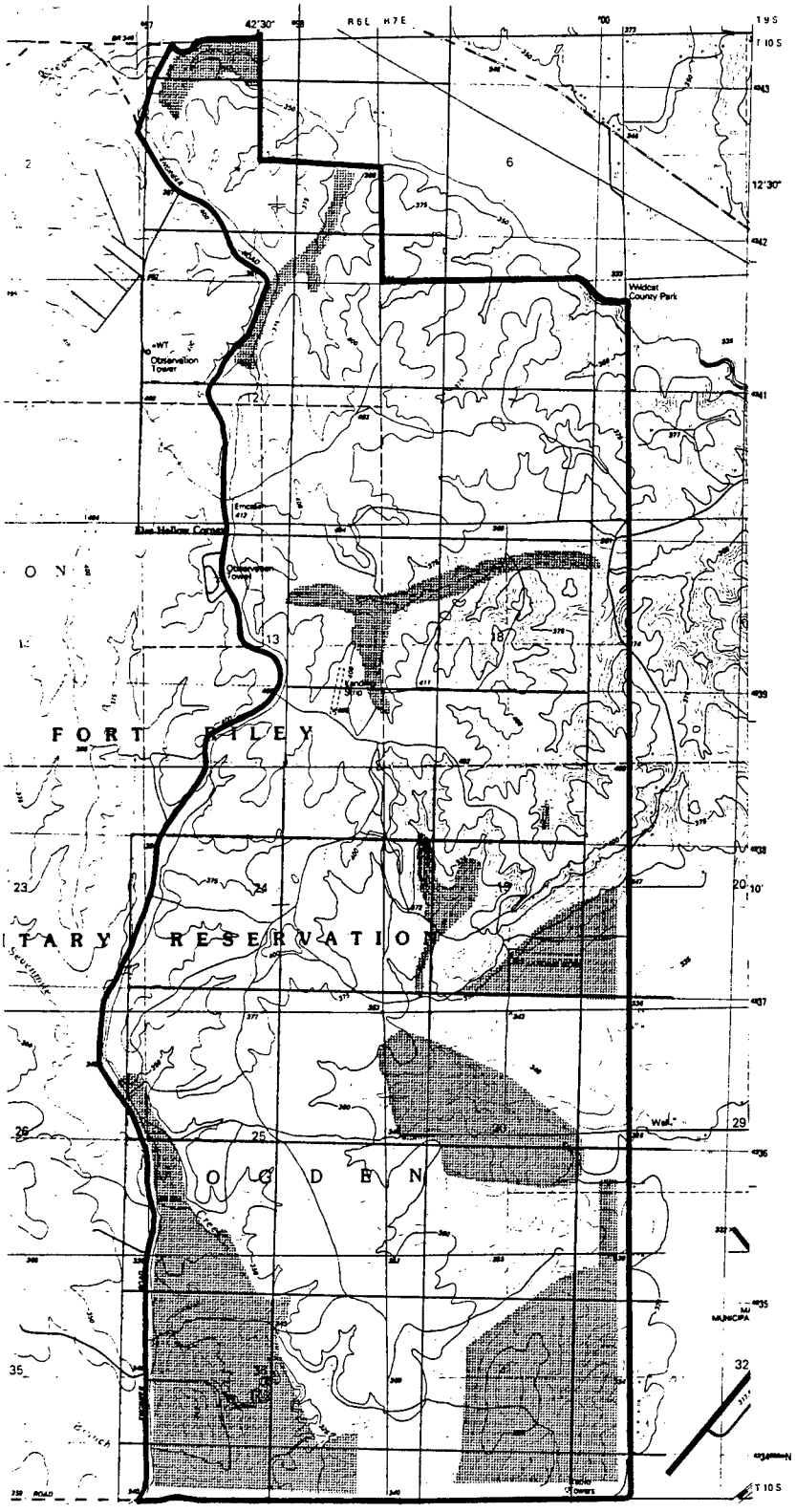


Figure 9. A portion of the USGS 7.5' Riley Quadrangle (50 percent reduction). The hatching shows the major areas of shovel testing within the Stage I survey area.

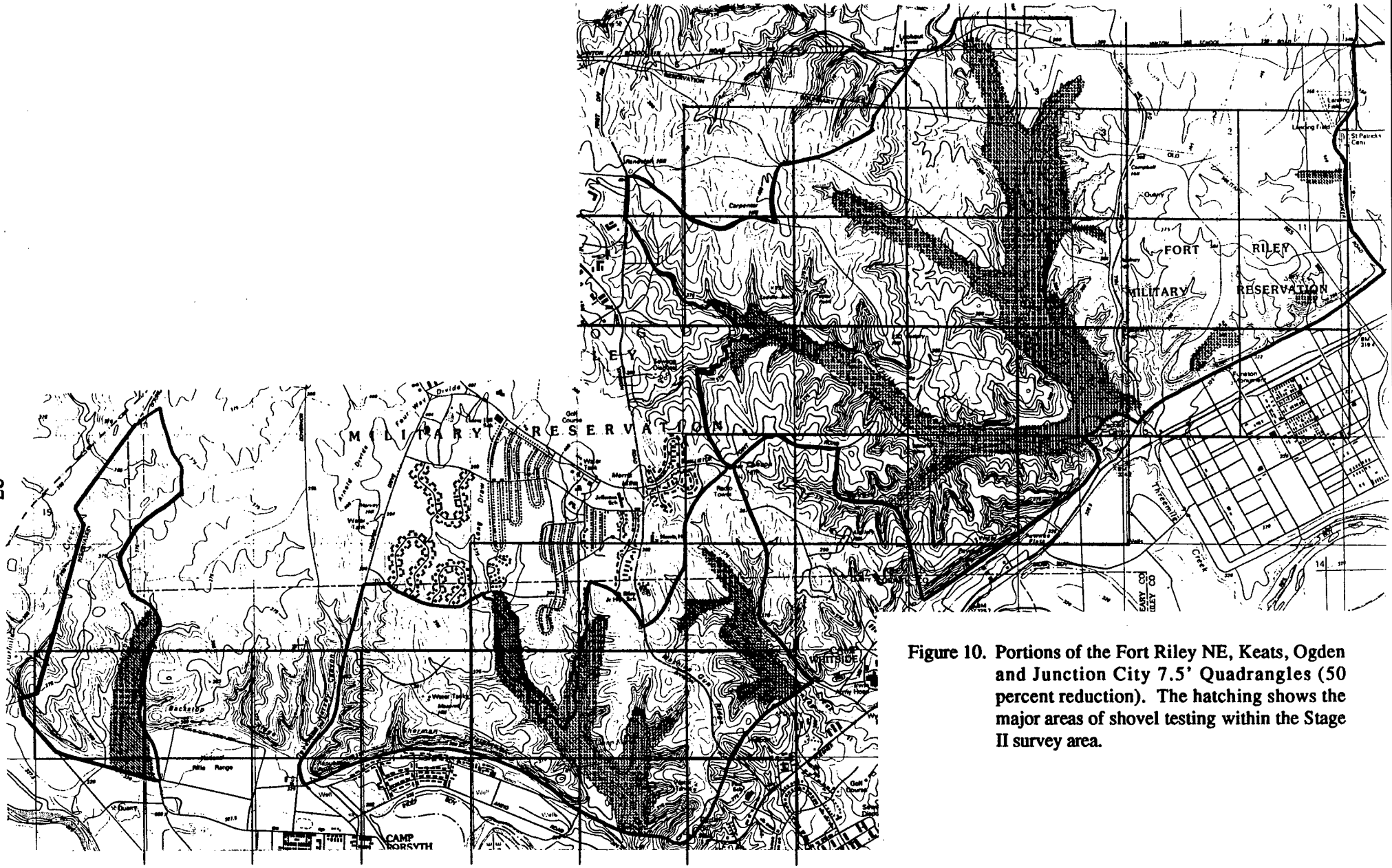


Figure 10. Portions of the Fort Riley NE, Keats, Ogden and Junction City 7.5' Quadrangles (50 percent reduction). The hatching shows the major areas of shovel testing within the Stage II survey area.

Only materials that appear to be older than the World War II training activities (i.e., activities after the Army's 1942 acquisition of the area) were recorded as cultural resources. Even with this pre-1942 age range, certain types of historic era features were not recorded. The approach taken stems from recommendations made in the *Kansas Preservation Plan Section on Historical Archeology* (Lees 1989). Since no historic materials were found that are thought to date before 1865, and material from the World War II and later military use of the area was not recorded, we are dealing primarily with manifestations from the Period of Rural/Agricultural Dominance and the Time of Contrasts. The types of archeological sites recommended for recording from these periods are basically limited to areas of "focused human settlement."

> . . . 1865 to 1900: The Period of Rural/Agricultural Dominance. Only sites of focused human settlement should be recorded for this period. Included here are sites such as farmsteads, towns, mills, railroad camps, cemeteries, and rural schools. Excluded are site types of diffused human activity, including cultural features such as railroads, roads, isolated windmills, abandoned farm equipment, fences, and erosion control devices. These sites of diffused activity were recorded for earlier periods and their exclusion here represents the major change in site recording.
>
> . . . 1900 to 1939: Time of Contrasts. Essentially, sites recorded for this period mirror those recorded for the preceding period . . . [Lees 1989:91].

Because of these recommendations, two types of historic features from the Period of Rural Agricultural Dominance and/or the Time of Contrasts were not recorded: fences and abandoned, pre-military roads.

Historic material that was recorded during the investigations includes pre-World War II features, debris scatters and individual artifacts that appear to have originated from either civilian or military use of the study areas. Two sites in the Stage I area (temporary numbers 951003a-12 and 951003a-20) and five sites in the Stage II area (temporary numbers 951003a-64, 951003a-74, 951003a-79, 951003a-81 and 951003a-83) produced evidence of farmstead features and will be investigated as part of the USACERL farmstead study.

Additional site testing was undertaken at some sites in order to better ascertain the nature of the subsurface cultural deposits. These investigations were carried out in the form of 1-by-1 meter test units. A single test unit was excavated at 14GE183, 14GE3104, 14RY115, 14RY3184, 14RY3185, 14RY4131, 14RY5107, 14RY5109, 14RY5132, 14RY5137, 14RY5144, 14RY5149, 14RY5152, 14RY5155, 14RY5157, 14RY5158, 14RY5159, 14RY5160, 14RY5162, 14RY5163, 14RY5173, and 14RY5175, while two test units were excavated at both 14RY5104 and 14RY5129. The test units were excavated in 10 cm arbitrary levels or, if stratigraphic changes were recognized, in thinner sublevels corresponding to these strata. All matrix was screened through one-quarter inch mesh. Testing was terminated when a 10 cm level was excavated that was either devoid of artifacts or came into contact with bedrock. Photographs and profile drawings were made of at least one wall of each test unit. A standard LTA excavation form was completed for each test unit. All test units were backfilled.

It should be noted that the test units excavated during this project were designed primarily to explore the cultural components identified through surface inventory or shovel testing. As such, the testing generally ended at the point at which the component had been penetrated and culturally sterile matrix had been encountered. These preliminary explorations should therefore not be construed as any form of "deep testing" designed to find previously unidentified cultural components.

Site positioning, boundary definition, diagnostic artifact locations, and areas of testing were all identified using global positioning system (GPS) equipment. GPS field or "rover" files were collected in SSF format using Trimble Pro XL equipment. Base station data, provided by the Fort Riley Natural Resources Division, were used to achieve post-processed, differentially corrected, points. This processing was accomplished using Trimble PFINDER software Version 2.50 (Trimble Navigation 1992a). GPS base station data were also gathered in Trimble SSF format.

Rover points at the site marker positions (see below) were gathered using a minimum sampling frequency of 180, a minimum of four satellite vehicles, a position dilution of precision (PDOP) less than or equal to 4, and a sampling rate of one sample per second. According to the Scope of Work, the point information gathered at the site markers is intended to have a mean accuracy of no less than three meters from true. In actuality, the methods and equipment employed should generally yield submeter accuracy (Trimble Navigation 1994). No allowances were necessary for unavoidably high PDOPs.

All GPS data were gathered and utilized in the Universal Transverse Mercator (UTM) grid coordinate system. For purposes of incorporating site and isolated find positions into Fort Riley's geographic information system, information was output and delivered in GRASS site file format. Additional data to complete actual site maps were output in AutoCAD DXF format (Trimble Navigation 1992b).

With seven exceptions (see below), a Kansas State Historical Society Archeological Site Form was completed for each site and isolated find. In the case of prehistoric sites, the term "Camp" was circled on part 10 of that form for all localities at which a more specific site type could not be proposed. This categorization should not be construed as implying a strong functional cohesiveness from one "camp" locality to another; as used in this study, it is somewhat of a catch-all term thought to be preferable to designating most prehistoric sites as being of an "unknown" type.

A semi-permanent site marker consisting of a large iron spike and an attached aluminum tag was left at each recorded cultural resource location. The tag was labeled with either the temporary or state site number and the date of the recording. This marker was generally placed near the center of the identified cultural material. In the case of materials identified within cultivated areas of the Stage I study area, the marker was placed off to the side of the cultivated area in undisturbed grassland or brush.

All site and isolated find areas were photographed using color slide and black-and-white film. A standard LTA photo log was completed for each roll of film used during the project. This photographic record will be delivered to Fort Riley at the completion of the contract.

All but seven newly recorded cultural resources have been assigned Riley County site numbers from a block of numbers supplied to LTA by the Kansas State Historical Society. The only exceptions to this are two locations at which indications of historic farmstead features were detected (951003a-12, 951003a-20, 951003a-64, 951003a-74, 951003a-79, 951003a-81 and 951003a-83). While they are briefly described at the end of Chapters 3 and 4, a site form has not been completed for these sites by LTA.

A total of 1290 hours of labor were logged during the Stage I field investigations and 1680 hours were logged during Stage II. Of these, five tasks accounted for the following percentages (rounded to the nearest 10 percent) of labor expenditure in each study area:

Task	Stage I Percentage	Stage II Percentage
Surface Inventory	20	20
Shovel Testing to Identify Sites	30	40
Shovel Testing to Delineate Sites	30	20
Excavation of Test Units	10	10
Site Recording and Mapping	10	10

Taking all of these tasks into account, the field investigations during Stage I equate to a coverage rate of 4.8 acres, or 2.0 ha, per person per hour; those for Stage II equate to 4.5 acres, or 1.8 ha, per person per hour.

Collection Strategies, Cataloging Procedures, and Artifact Types

The collection of artifacts was limited to chipped stone tools and other potentially diagnostic artifacts from the surface and all cultural material recovered from the screening of shovel testing and test units. Except for adding several new types, the cataloging procedures used during this project conform to a format used by University of Kansas Museum of Anthropology (Sather 1993). All cultural material collected as a result of Contract DACA41-95-C-0094 will be curated at Fort Riley.

The analysis of prehistoric artifacts was geared specifically toward a) rudimentary attempts at determining site age and function and b) addressing topics enumerated in the two research designs. While both the original research designs and their resultant reports (University of South Dakota 1993; Largent 1994; Largent and Waite 1995) specify rather detailed forms of analyses for prehistoric artifacts, it is never clearly demonstrated how these avenues of study will be directly articulated to the research goals. Additionally, many of the proposed forms of analysis seem impractical in instances where field techniques are geared toward minimal artifact collection and only limited testing. Because of these problems, as well as the fact that the two research designs have somewhat mutually exclusive analytical approaches, a separate analytical strategy has been developed specifically for the present contract that relies on simple and descriptive artifact terms as well as other site characteristics.

Four descriptive categories - projectile point, biface, end scraper, and flake tool - have been used to categorize the chipped stone tools identified during the course of the Stage I investigations. *Projectile points* are bifacially flaked artifacts that exhibit (or are assumed to have once had) a haft element. Along with ceramics, projectile points are considered one of the better relative age and cultural indicators within prehistoric site assemblages. *Bifaces* (exclusive of projectile points) are characterized by their intentional bifacial retouch; they can vary greatly in terms of size and form. *End scrapers* are flaked artifacts, generally triangular to ovoid in shape, with steep, unifacial retouch along at least the distal end of the flake. *Flake tools* are artifacts that have predominantly unifacial retouch and/or minor edge damage along one or more of the flake's margins; some bifacial flaking may be present, but only in minor amounts near the edges of the tool. Flake tools are generally thinner, less stylized, and less symmetrical than artifacts classified as end scrapers.

Besides the above chipped stone categories, the only other stone tool type identified during the study is hammerstone. *Hammerstones* are defined as small, water rounded cobbles whose edges have medium to fine pecking and pitting marks characteristic of hard hammer lithic reduction tools. It should be noted that nutting stones can exhibit

virtually the same characteristics and no attempt has been made here to distinguish between the two artifact types.

Debitage is defined as the unused portion of the lithic assemblage that lacks any observed use-wear or intentional modification. Debitage from the present study was classified as either cores or flakes. *Cores* are defined as artifacts that exhibit the removal of two or more flakes of sufficient size to have been useful as chipped stone tool blanks. Because most of the cores encountered in the Stage I study are small fragments of the original artifact, no attempt was made to subcategorize them into various core types (bipolar, multiple platform, freehand, etc.)

To be classified as a *flake*, a piece of lithic material has to exhibit one or more of the following characteristics: a striking platform and a bulb of percussion or lipping, remnants of a conchoidal shape with thin lateral edges, thin fragments with ripple marks on the ventral surface indicative of intentionally directed hard or soft hammer blows, evidence of edge preparation, nonlocal lithic material type, or heat altered coloration. The primary reason for using these attributes was to eliminate naturally occurring Florence chert materials from consideration as being definitely cultural, especially when observed on the surface of the study area. While such pieces might, in other study areas, be construed as culturally produced "shatter," such an interpretation in the Fort Riley area would be highly suspect because of the large quantities of naturally occurring and highly fragmented Florence chert, present both on the ground surface and as colluvial deposits in the drainage channels. The presence or absence of cortex was also noted for most flakes.

Vessel ceramics were classified as either body sherds, rim sherds, lug/handle fragments, or complete vessels. Surface treatment, decoration technique, rim form, lip shape, and type of temper were also recorded. In cases of multiple sherds from the same site, minimum, maximum and mean thickness of the body sherd sample were also recorded. Where possible, attempts were made to classify ceramics into recognized ware types from the Central Plains. The comparative literature consulted for these classifications is presented on a site-by-site basis within Chapters 3 and 4.

Daub fragments were counted. No attempt was made to classify daub according to color, hardness, or the presence or absence of vegetation casts within the daub.

Because the recording and analysis of historic artifacts from this project is extremely limited, no attempt was made to type or categorize individual specimens. Within Chapters 3 and 4, descriptive terms are used that are well accepted and whose meaning is fairly self explanatory.

Other Data Gathered for Addressing the Research Designs

The University of South Dakota research design necessitates that some attempt be made to define the lower stream terrace areas within the Stage I and Stage II survey areas. Figures 11 and 12 are project maps illustrating the predicted location of the flood plain and the first terrace above the flood plain; no attempt has been made to distinguish between these two types of terraces. The zones shown in the figures are based entirely on contours and drainage locations illustrated on the 7.5' quadrangle sheet; the terraces were not mapped during the field investigations.

The Geo-Marine research design proposes that short term activity areas are the types of sites most likely to occur in the USACERL low probability zones. An attempt was

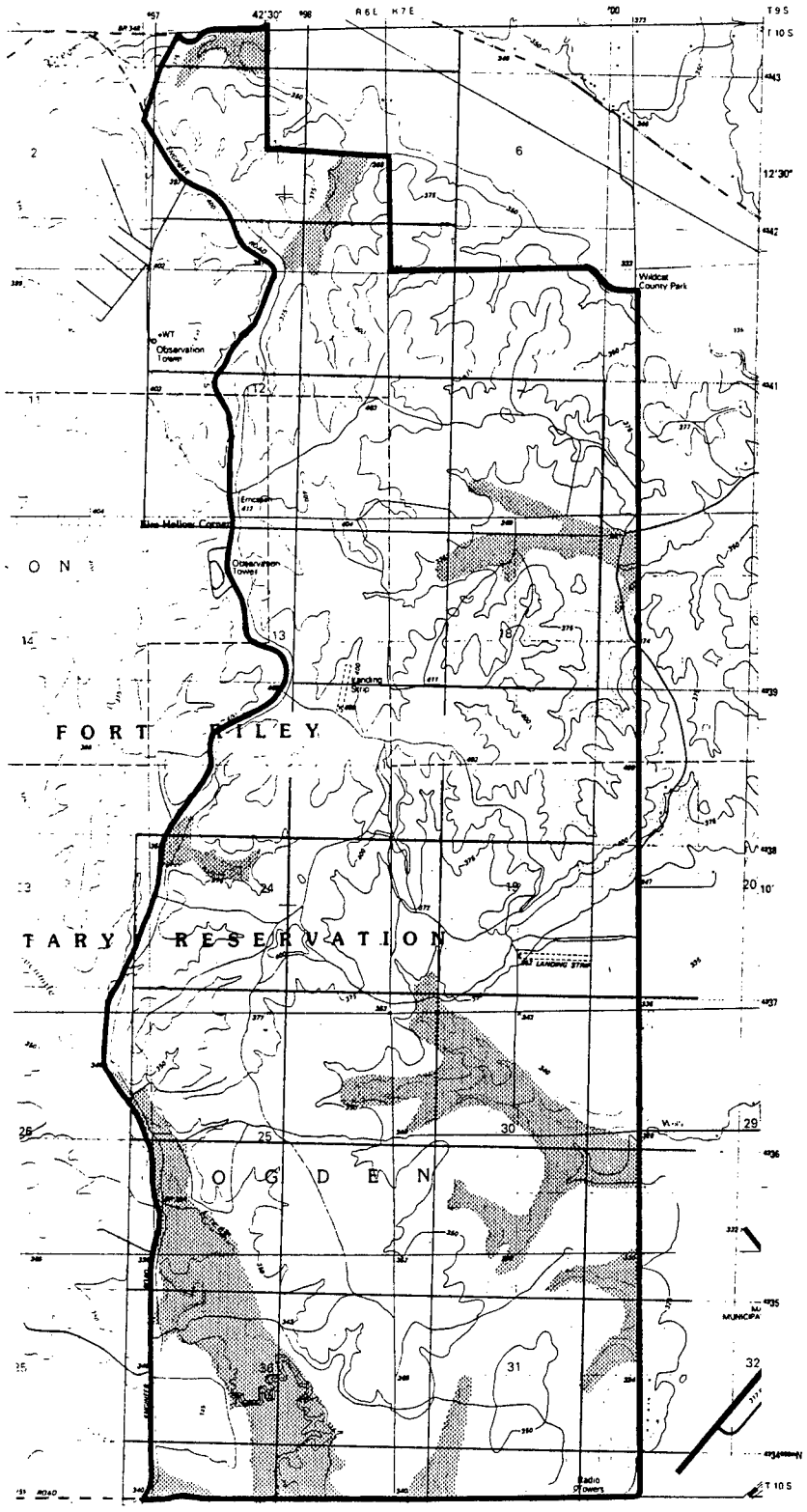


Figure 11. A portion of the USGS 7.5' Riley Quadrangle (50 percent reduction). The hatching indicates major zones containing both the flood plain and the first terrace above the flood plain within the Stage I survey area. All other areas within Stage I are considered uplands.

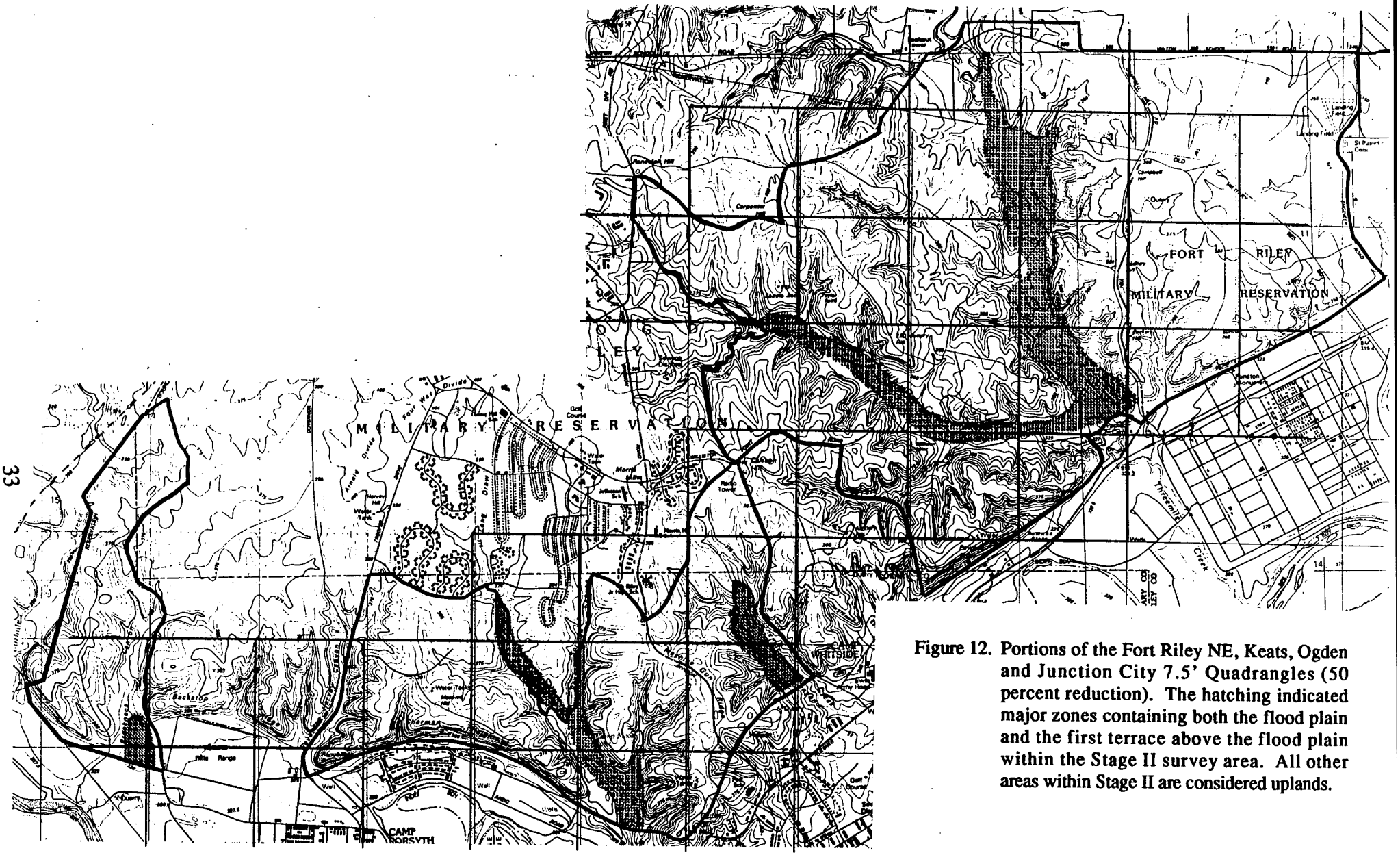


Figure 12. Portions of the Fort Riley NE, Keats, Ogden and Junction City 7.5' Quadrangles (50 percent reduction). The hatching indicated major zones containing both the flood plain and the first terrace above the flood plain within the Stage II survey area. All other areas within Stage II are considered uplands.

therefore made to use the prehistoric artifact assemblages and the size of each location to establish short term versus long term activity areas. The basic premises behind the approach taken within the present study are as follows:

- Short term special use sites should exhibit a low variety and a low frequency of artifact types and should occupy a relatively small area.
- In the case of continual reuse of the same special use locations (i.e., multiple short term events), the area of artifact distribution and the frequency of artifacts should increase, but there should still be very little variety in the tool types present.
- Residential sites should contain small, discrete concentrations of artifacts with a high frequency and a wide variety of tool types.
- Reoccupation or extended use of residential sites should increase the area of occupation; there should still be a wide variety of tool types.

While these observations are based primarily on ethnoarcheological data from hunter-gatherer studies (e.g., Binford 1978, 1983; Hayden 1979; Gould 1980; Yellen 1977), there may have been a roughly equivalent pattern operating on the semi-sedentary horticultural groups thought to have been present in the study area during the Early and Middle Ceramic periods. This is especially true in the tributary stream valleys and uplands, where the reliance on horticulture may have been minimal.

Fitting the "special use" and "residential" categories into the short term - long term dichotomy proposed by the original research design is not without problems. In general, however, the four types of patterns given above can be viewed as a continuum, with single event special activity areas being the "shortest term" sites and reoccupied or extended use residential areas being the "longest term" sites.

For this analysis, site size (in square meters) is used as the area of artifact distribution. Isolated finds with only one artifact, or one positive shovel test, were given a somewhat arbitrary site size of one square meter.

Tool type frequency and variety were assessed through the use of a diversity index. Long used by plant and animal ecologists (e.g., Pielou 1978), the concept of a diversity index has also been applied to archeological assemblages (e.g., Reher 1977, 1978; Chapman 1980; Hilman et al. 1986). In the case of the present study, the Shannon-Wiener Index (H') was used. It is calculated as follows:

$$H' = -\sum_{i=1}^{S} p_i \log p_i \qquad \text{units}$$

where p_i is a given category's (i.e., tool type's) proportion within the community (i.e., the total tool assemblage) (Pielou 1978:290-296). A natural logarithm (base e) was used to calculate the results.

At each recorded prehistoric location, this index provides a measure of the number of categories, the number of observations within each category, and the "evenness" of the these variables in relationship to one another. A higher H' value will be obtained when more categories are present and as the number of observations within each category

approaches uniformity. *H'* will decrease if category frequencies are uneven or if the total number of categories goes down.

To test the original proposition that sites in the low probability zone will tend to be short term activity areas, the sites recorded were coded as to which of the two zones they are in. A bivariate plot - site size vs. *H'* - was then made of the sites, first by stage of inventory, and then combined. The results are presented and discussed in Chapter 5.

In an ideal situation, the density of artifacts (the number of tools per square meter of site area) should also be taken into account when assessing the potential function and term of occupation at a site. In the current study, however, this is not practical; the density of artifacts calculated during a surface observation in an area with little ground cover will be considerably different than that calculated on the basis of materials from a 5 or 10 meter shovel testing grid, or a 1-by-1 meter test unit. For the purposes of the present study, no means could be found to overcome this type of sampling bias, and artifact density was not considered in the analysis.

Flaking debris and ceramics (both vessels and daub) present quantification problems for the type of study proposed here. Flakes, rather than being individual tools, are more analogous to activity indicators (i.e., one knapping event can produce many flakes). As such, it would not be appropriate to use flake frequencies as a "tool type" count. To resolve the problem, flakes within the site assemblages were simply categorized by the presence or absence of cortex; each of these categories, if present, were then arbitrarily assigned a "tool type" count of one. This is an admittedly crude form of debitage analysis, but it does provide a means of considering flakes within the calculation of site diversity.

The problem with ceramics is similar; counts of the number of sherds, or number of pieces of daub, recovered at a site cannot be directly translated into the number of vessels or house features present. To overcome this problem, the presence of any vessel ceramics or any daub was converted into a minimal tool type count of one for those particular artifact types. For vessel ceramics, if variations in rim form, temper, surface finish, or decoration indicated the presence of two or more vessels, the tool type count was adjusted upward.

3

STAGE I STUDY RESULTS

INTRODUCTION

Twenty sites and 35 isolated finds were identified as a result of the Stage I investigations. Forty-three of these are prehistoric localities and 10 are historic. Two sites contain both a prehistoric and a historic component.

Descriptions of these cultural resources are presented in the following section. All but two of the properties are presented in the order of their assigned site numbers. Except for 14RY115 and 14RY117, all of the locations were originally assigned a temporary field designation starting with "951003a-." Since these were the labels left on the site markers, a site number to temporary number comparison will be of value to future investigators. This comparison is presented in Table 2. The farmstead locations not assigned state site numbers by LTA, 951003a-12 and 951003a-20, are the last two sites described in this chapter.

CULTURAL RESOURCE DESCRIPTIONS

14RY115 (Figure 13)

Site 14RY115 was originally recorded in 1992 during a Phase I sample survey of portions of Fort Riley (McDowell and McGowan 1993). The original site form states that 23 artifacts were collected from the cultivated field along the southern boundary of the fort. These materials (apparently the entire surface assemblage) consisted of flakes, a uniface, and two utilized cores. Auger testing carried out in the site area in 1992 indicated that the soils were eroded and that there was little potential for intact subsurface deposits.

Two flakes were observed at the same general location during the 1995 LTA investigations. Additionally, shovel test transects in undisturbed areas north of the field encountered subsurface cultural materials very near the original site boundaries. Additional shovel testing on a 10 meter grid and along a separate transect resulted in the recovery of additional materials - flakes and flake tools from 18 shovel tests. When it became obvious that cultural materials in the undisturbed areas were going to merge with the site area in the cultivated field, shovel testing was suspended and the entire area was treated as part of 14RY115.

The northern and eastern boundaries of 14RY115 appear to be consistent with the edge of the first terrace above the flood plain of Sevenmile Creek. In the relatively undisturbed wooded portions of the site, this terrace edge is well defined and abrupt, while in the field it has been smoothed and nearly leveled by plowing.

The shovel testing results indicate that cultural materials in the northern undisturbed portions of 14RY115 could be quite dense. To further investigate the site, a 1-by-1 meter test unit was excavated next to positive shovel test 1, from which 42 flakes and 2 flake

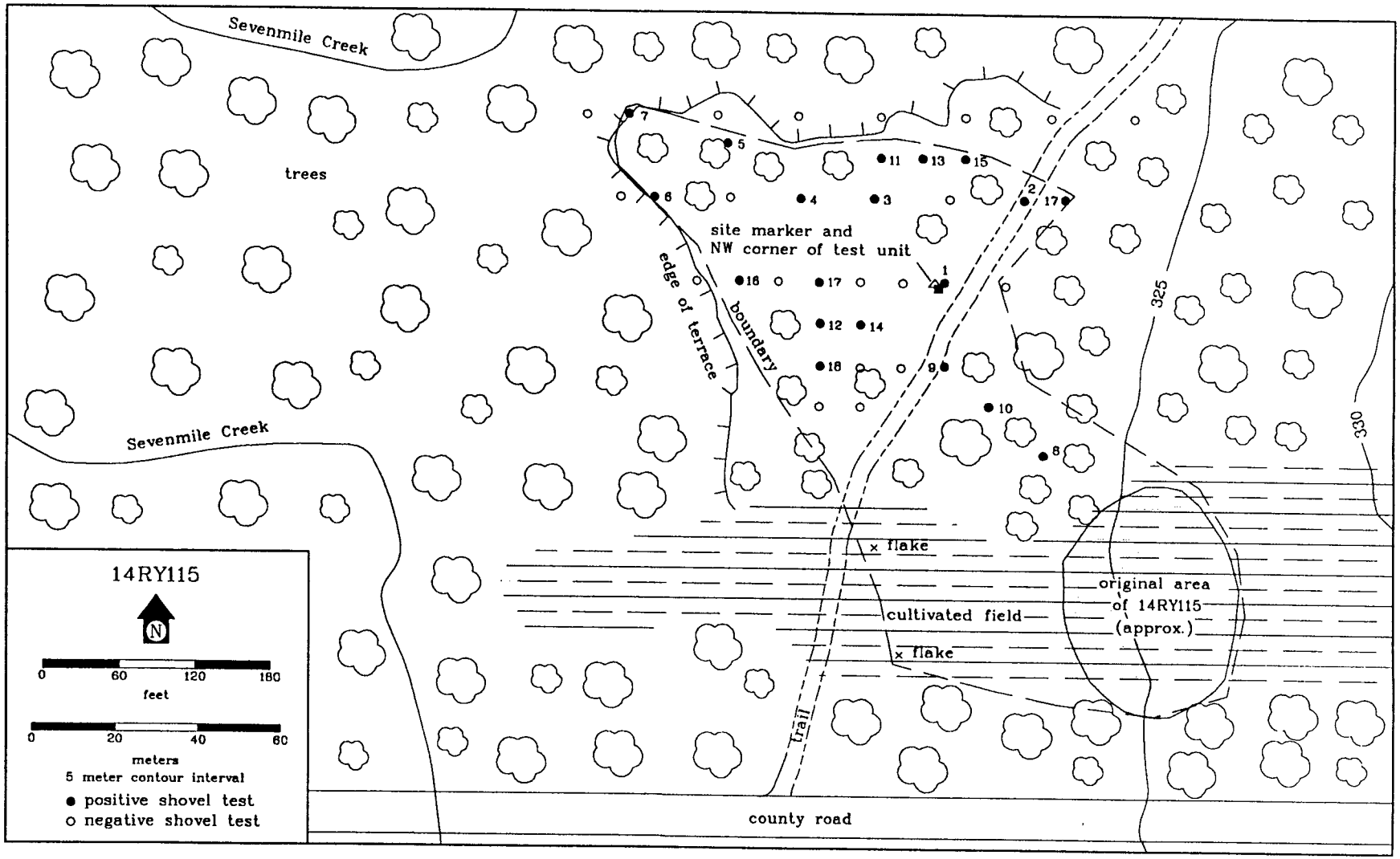


Figure 13. A map of 14RY115.

Table 2. A list of assigned site numbers and corresponding temporary numbers for the Stage I study area.

Site #	Temp. #	Site #	Temp. #
14RY115	----------	14RY5130	951003a-41
14RY117	----------	14RY5131	951003a-38
14RY4131	951003a-2	14RY5132	951003a-24
14RY5103	951003a-19	14RY5133	951003a-23
14RY5104	951003a-21	14RY5134	951003a-25
14RY5105	951003a-22	14RY5135	951003a-26
14RY5106	951003a-18	14RY5136	951003a-27
14RY5107	951003a-13	14RY5137	951003a-28
14RY5108	951003a-10	14RY5138	951003a-30
14RY5109	951003a-16	14RY5139	951003a-29
14RY5110	951003a-17	14RY5140	951003a-42
14RY5112	951003a-11	14RY5141	951003a-43
14RY5113	951003a-14	14RY5142	951003a-44
14RY5114	951003a-6	14RY5143	951003a-45
14RY5116	951003a-3	14RY5144	951003a-47
14RY5117	951003a-4	14RY5145	951003a-55
14RY5118	951003a-5	14RY5146	951003a-46
14RY5119	951003a-1	14RY5147	951003a-50
14RY5120	951003a-9	14RY5148	951003a-48
14RY5121	951003a-7	14RY5149	951003a-49
14RY5122	951003a-8	14RY5150	951003a-39
14RY5123	951003a-51	14RY5151	951003a-33
14RY5124	951003a-32	14RY5152	951003a-34
14RY5125	951003a-54	14RY5153	951003a-40
14RY5126	951003a-35	14RY5154	951003a-56
14RY5127	951003a-37	---------	951003a-12
14RY5128	951003a-36	---------	951003a-20
14RY5129	951003a-31		

tools had been recovered. A dense deposit of cultural material was recovered from the upper 40 cm of deposits (Figure 14). Although no consolidated band of cultural material is obvious, the artifacts appear to be entirely within an upper zone of brown, sandy loam. Cultural materials recovered from the test unit include fire-cracked rock, approximately 1400 flakes, two cores, a small hammerstone (possibly a nutting stone; Figure 15a), four biface fragments, five flake tools, portions of two projectile points, a rim sherd, 29 body sherds, and a nearly complete miniature vessel.

All of the ceramics appear to be tempered with minor amounts of sand. Except for some small smoothed fragments, the ceramics all have either a cord roughened (Figure 15b) or smoothed over cord roughened surface treatment. Fifteen measurable body sherds exhibit a minimum thickness of 3.4 mm and a maximum thickness of 9.8 mm, with a mean of 5.3 mm. A cord roughened rim fragment is thinned with a rounded lip; it may flare slightly outward. No decoration is evident on any of the sherds. The miniature vessel (Figure 15c) has a globular body with a rounded bottom. It has a rounded shoulder and constricted neck. The lip is rounded. Surface treatment on the body of the vessel appears to be smoothed over cord roughening. All of the ceramics appear to be consistent with described examples of Riley Cord Roughened ware (e.g., Wedel 1959; Hedden 1994).

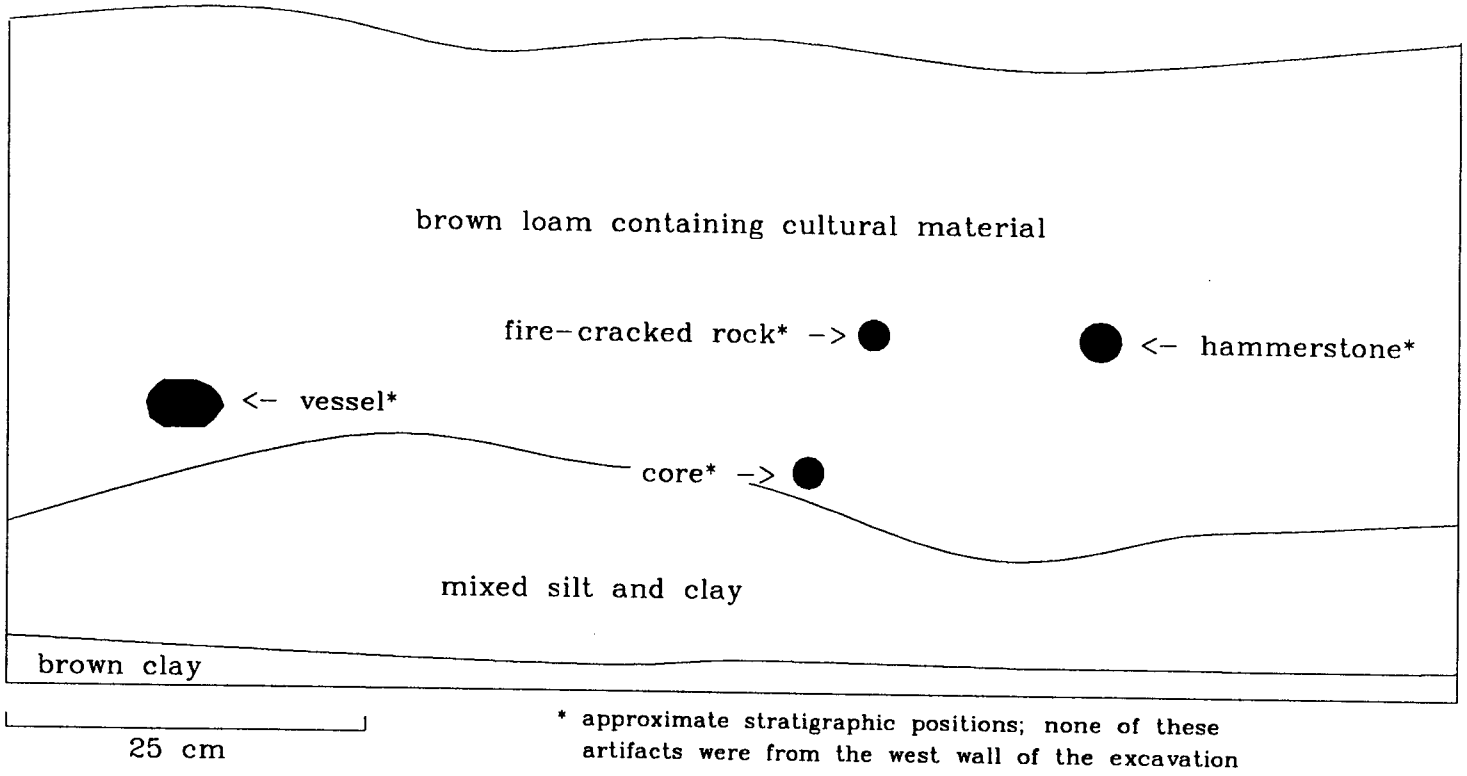


Figure 14. A drawing of the west wall profile from the test unit at 14RY115.

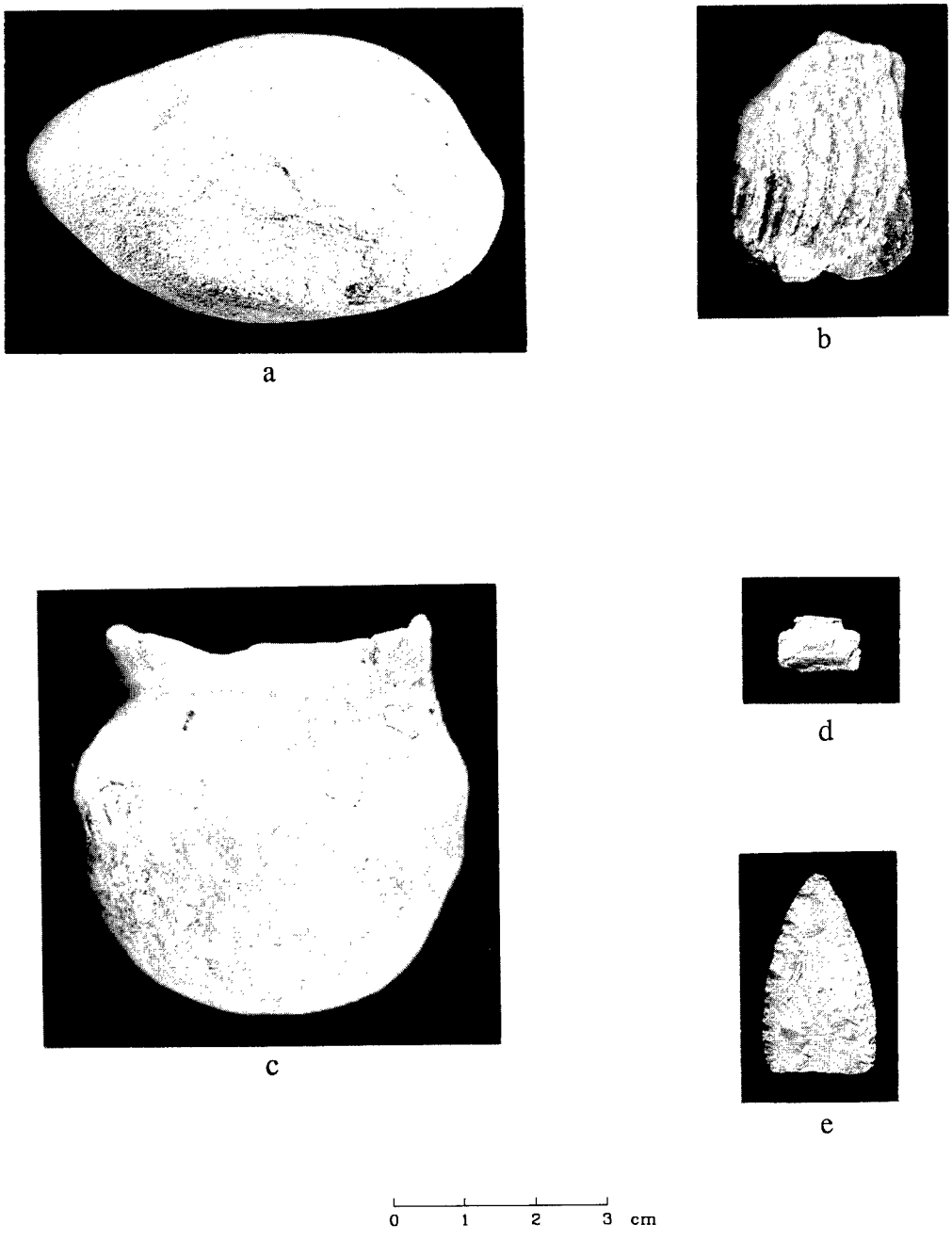


Figure 15. Artifacts from 14RY115. Respective catalog numbers: 14RY115-95-40, 14RY115-95-37, 14RY115-95-44, 14RY115-95-30, and 14RY115-95-39.

The two projectile points from the test unit both have intact basal elements. One is a small side-notched specimen (Figure 15d), while the other (Figure 15e) is a small, triangular unnotched point. Both appear to be manufactured from local Florence chert. Both projectile points are consistent with varieties recorded at Middle Ceramic period sites in the Flint Hills region of Kansas (e.g., Brown and Simmons 1987).

The ceramics and projectile points from 14RY115 appear to be reflective of a component of a Central Plains Tradition, Smoky Hill variant. This assignment is consistent with the apparent predominance of Smoky Hill during the Middle Ceramic period in the northern Flint Hills (e.g., Witty 1978; Steinacher 1976; Logan and Ritterbush 1994) and the proximity of 14RY115 to the Griffing site, 14RY21, the type locality for Riley Cord Roughened ware (Wedel 1959:178-187).

14RY117 (Figure 16)

This site was originally recorded in 1992 during a Phase I sample survey of portions of Fort Riley (McDowell and McGowan 1993). The original site form described 14RY117 as "a small scatter of lithics in the uplands above an unnamed intermittent drainage near Sevenmile Creek." Two broken flakes from the surface and a flake from an auger test were collected from the plowed fire break in 1992. A flake and a crude biface (Figure 17a), both of Florence chert, were noted in the same general area during the 1995 LTA investigations. Judging from the reappearance of materials between 1992 and 1995, there appears to be a small subsurface component within the plow zone.

14RY4131 (Figure 18)

This site contains both a historic and a prehistoric component. Although LTA orginally assigned the site number 14RY5115 to this site, it was later determined that it had also been recorded by USACERL and assigned the number 14RY4131.

The prehistoric component consists of approximately 30 flakes of Florence chert. This material is exposed in vehicle ruts in an east-west trail that crosses over limestone bedrock exposures containing several chert seams. There are many pieces of unmodified chert in the trail. Most of the debitage observed is from primary and secondary stages of decortication.

The historic component consists of glass, china and metal fragments on either side of a north-south tree row. Although no features were observed, these could have been obliterated by more recent activity in the site area.

Shovel testing on a 10 meter grid was carried out south of the vehicle trail on either side of the tree row. Of 115 shovel tests, only one produced any further cultural material - a flake of Florence chert from just south of the trail.

A 1-by-1 meter test unit was excavated in the central part of the site. A concentrated level of historic debris, including cut nails, metal fragments, china, bone, window glass, bottle glass, a brick fragment, and chinking was encountered in the upper 10 cm of deposits (Figure 19). Below the top 10 to 15 cm of loam is a red clay substratum that does not contain cultural material. No prehistoric artifacts were recovered from the test unit.

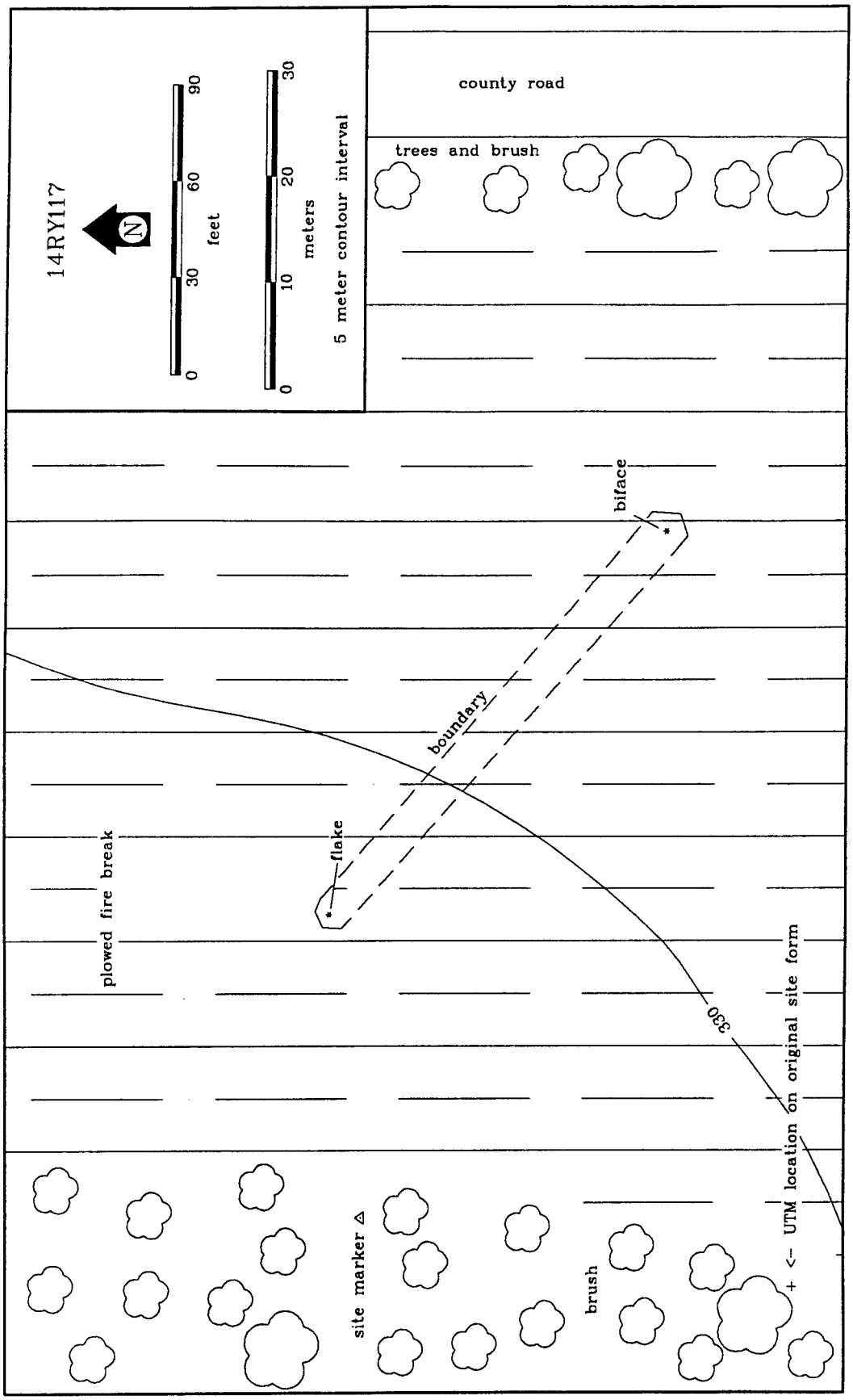


Figure 16. A map of 14RY117.

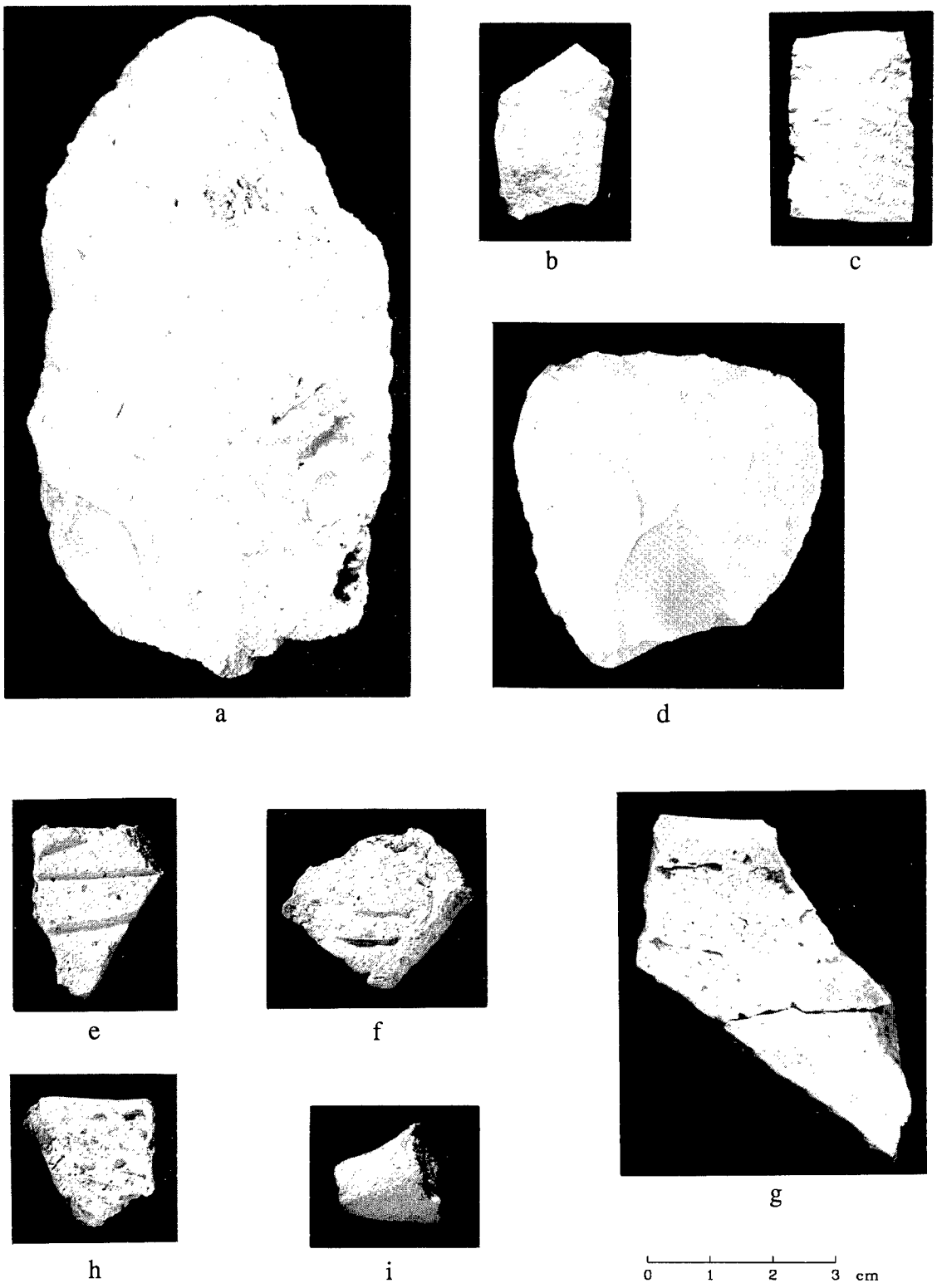


Figure 17. Artifacts from 14RY117 (a), 14RY5104 (b), 14RY5109 (c), 14RY5125 (d) and 14RY5129 (e - i). Respective catalog numbers: 14RY117-95-1, 14RY5104-14, 14RY5109-1, 14RY5125-29, 14RY5129-48, 14RY5129-18, 14RY5129-24, 14RY5129-23, and 14RY5129-16.

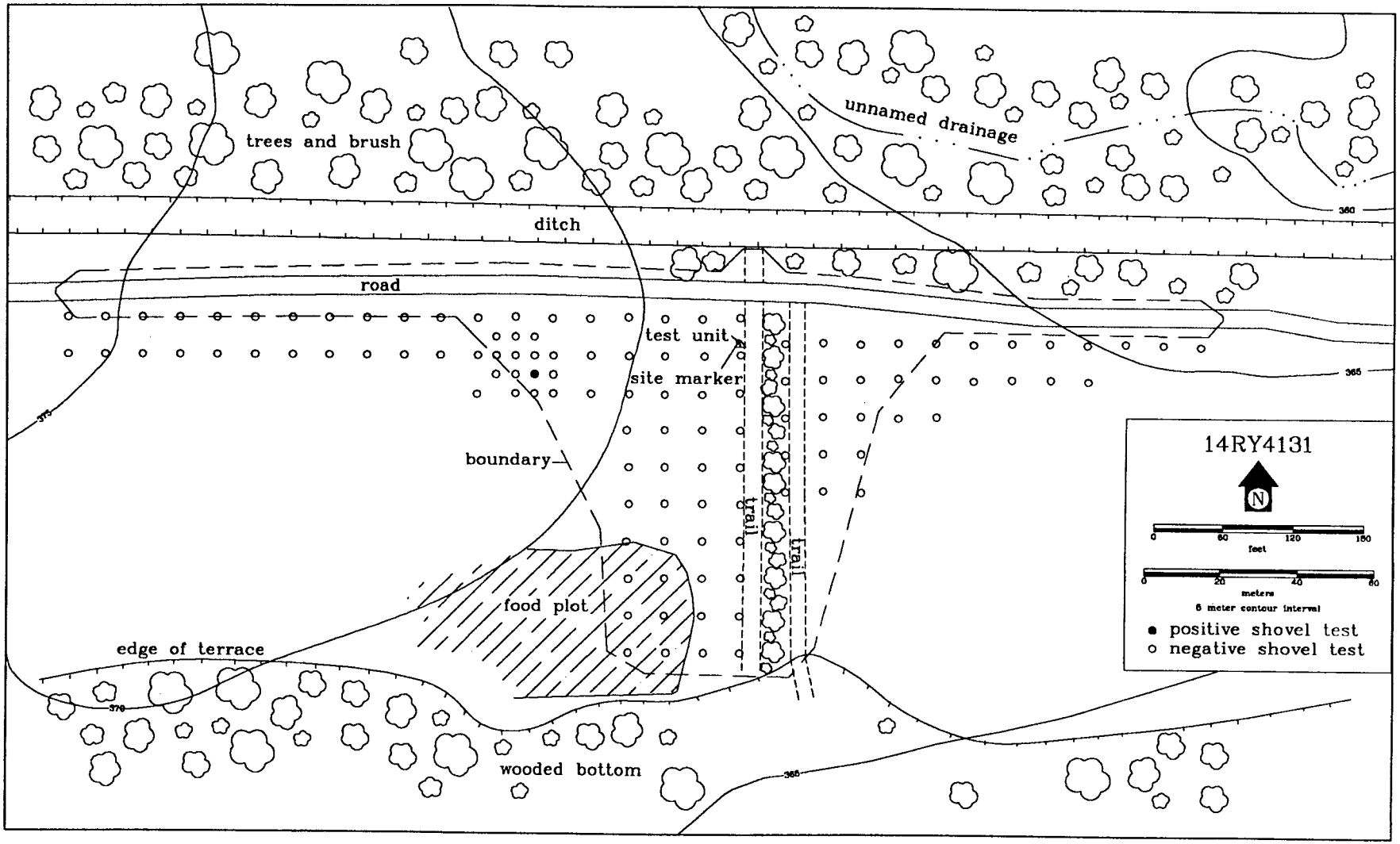


Figure 18. A map of 14RY4131.

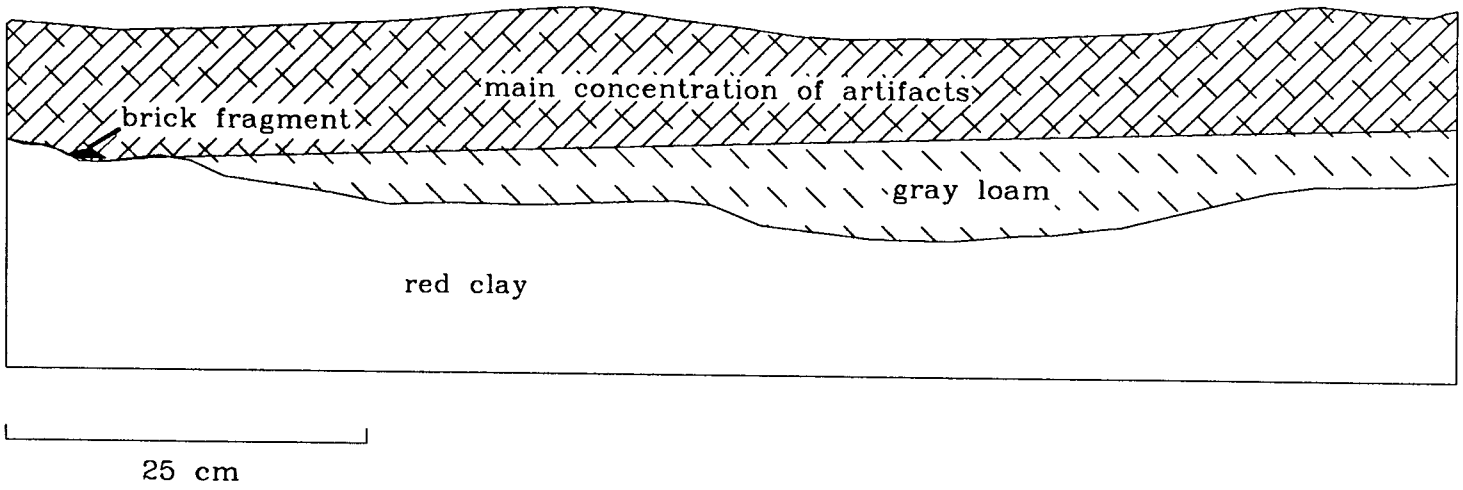


Figure 19. A drawing of the north wall profile from the test unit at 14RY4131.

14RY5103 (Figure 20)

This isolated find consists of two Florence chert flakes from a single shovel test. The materials are from a wooded terrace on the north side of an unnamed tributary of Wildcat Creek. Shovel tests on a five meter grid around the location did not produce any further cultural materials. Although the natural deposition on this terrace appears to be quite deep, the lithics came from near the surface. It therefore appears that they may be recently redeposited.

14RY5104 (Figure 21)

This site consists of a relatively dense subsurface deposit of lithics on a terrace on the south side of an unnamed tributary of Wildcat Creek. The site is in a wooded area with thick undergrowth. The only artifacts noted on the surface were a few flakes in shallow game trails. Flakes were recovered from 13 shovel tests on a five meter grid.

Two 1-by-1 meter test units were excavated in an attempt to determine site age and recover a better artifact assemblage. Both test units were excavated to 20 cm. Test Unit 1 was placed near positive shovel test 11 in the northern part of the site. Test Unit 2 was placed near positive shovel test 5 in the southern part of the site. In both test units, a cultural level was encountered at 5 to 15 cm below the present ground surface (Figure 22). This level is resting on a reddish clay subsoil that does not contain cultural material. Although a flake tool fragment (Figure 17b) was recovered from the upper 10 cm of Test Unit 1, no time diagnostic artifacts or features were found in testing.

14RY5105 (Figure 23)

This site is an abandoned historic limestone quarry of unknown age. Slabs of fairly uniform thickness have been quarried from a single pit into an exposed seam of limestone along the rim of a small intermittent stream valley. The pit created from the quarry activity is approximately 60 feet long, 20 to 30 feet wide, and 2 to 2.5 feet deep. There are remnants of drill holes visible at several locations around the edges of the pit.

This quarry appears to have been used and abandoned prior to the Army's acquisition of the land in the early 1940s. The stone was likely used nearby for either building foundations or fences. There is no indication of habitation features or quarry equipment on the site. Although military use of the area has altered the appearance of the quarry pit somewhat, it appears to be essentially intact.

14RY5106 (Figure 24)

This isolated find consists of three Florence chert flakes found in three separate shovel tests. The cultural material was found in two areas on either side of an unnamed drainage. Two transects of shovel tests between the two areas, as well as five meter shovel testing grids around the positive locations, failed to produce any further cultural material. Many of the shovel tests did produce burned limestone and charcoal from what appears to be a natural forest fire. The flakes recovered appear to be coming from within this lens of burned material, very near the present ground surface.

14RY5107 (Figure 25)

Over 100 flakes of Florence chert were observed on the surface at this site location. Approximately 20 of the flakes are in a 5-by-5 meter area near the eastern edge of the site. The site is in a grassy area to the east of the head of a small, south flowing drainage

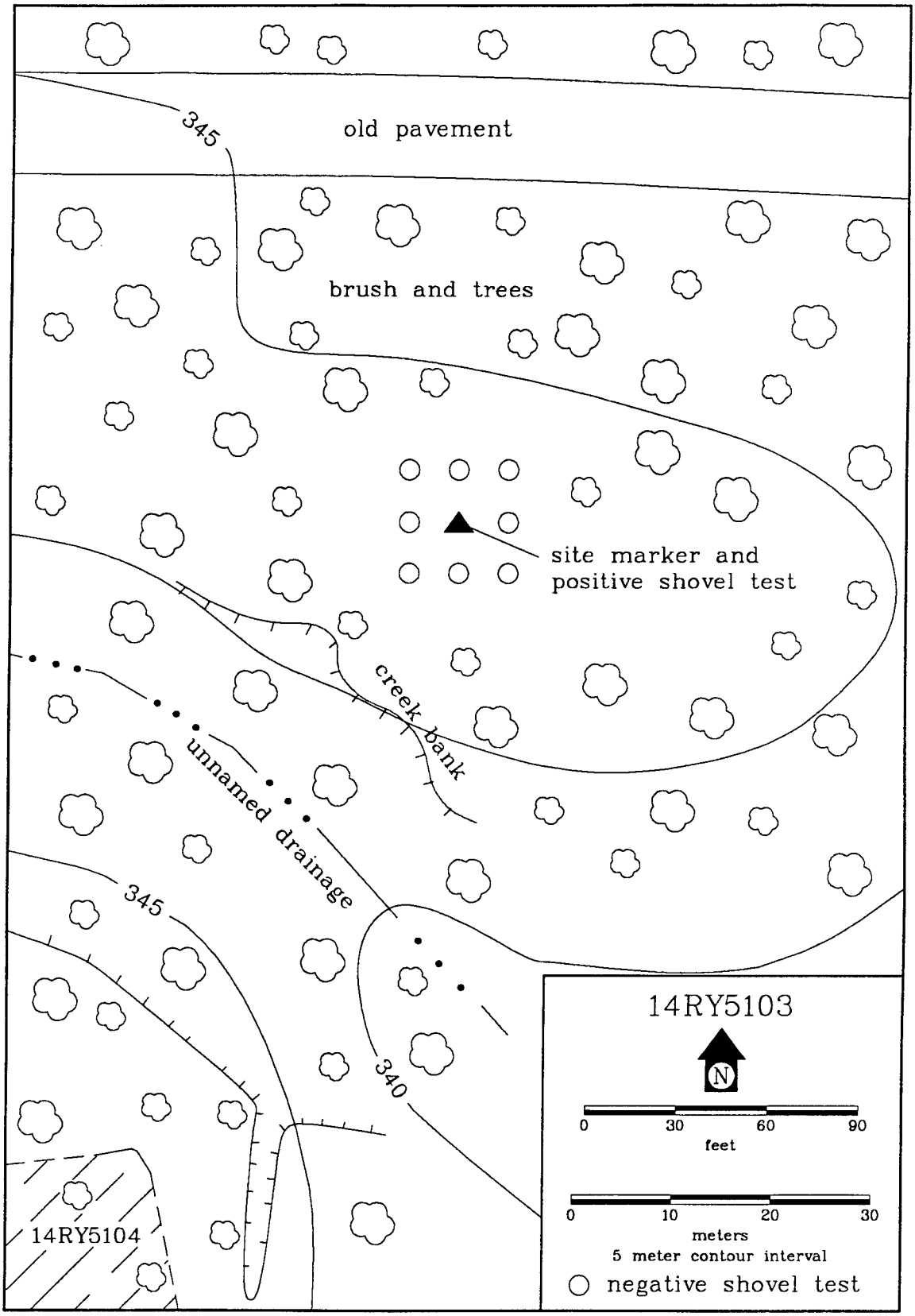


Figure 20. A map of 14RY5103.

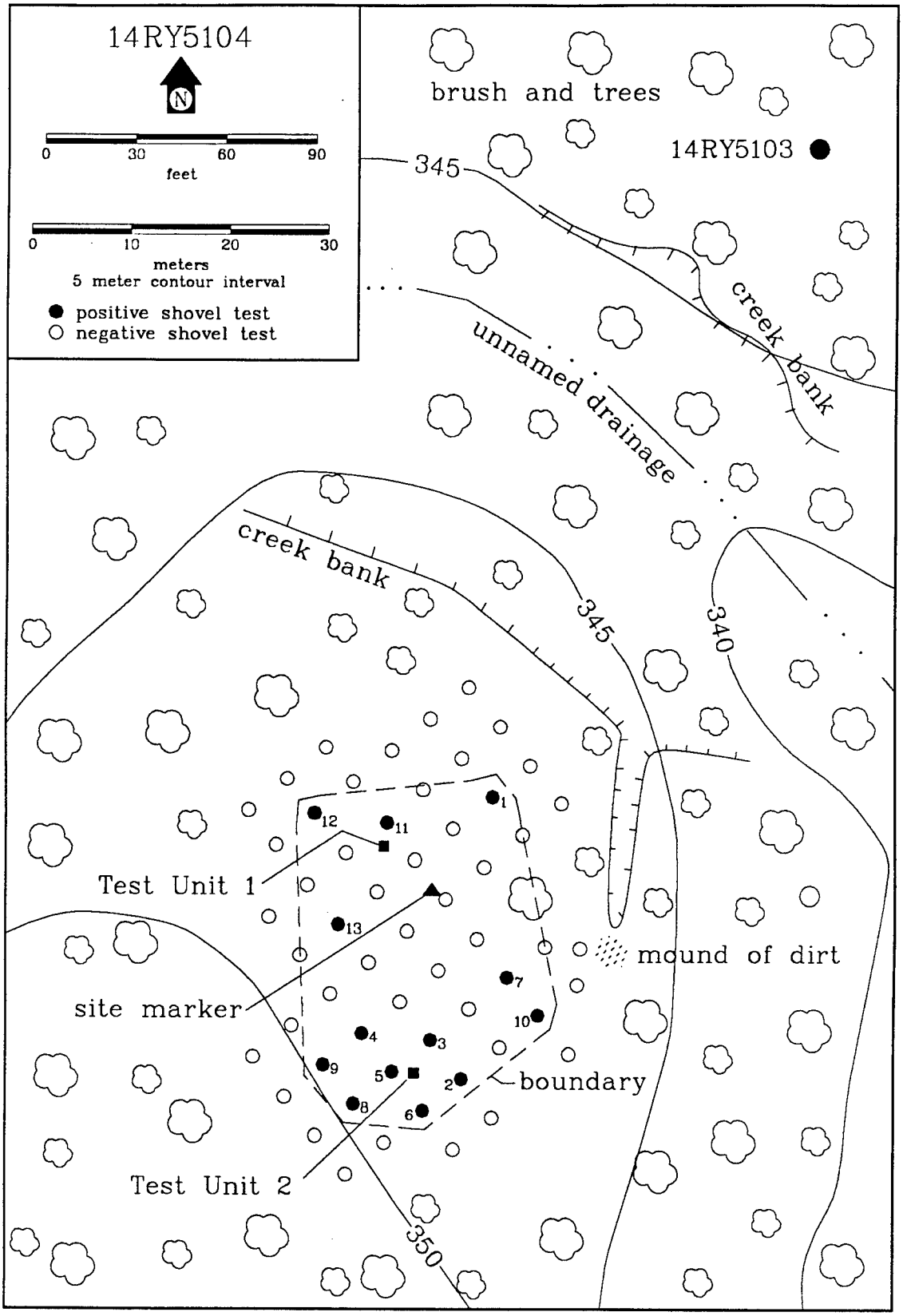
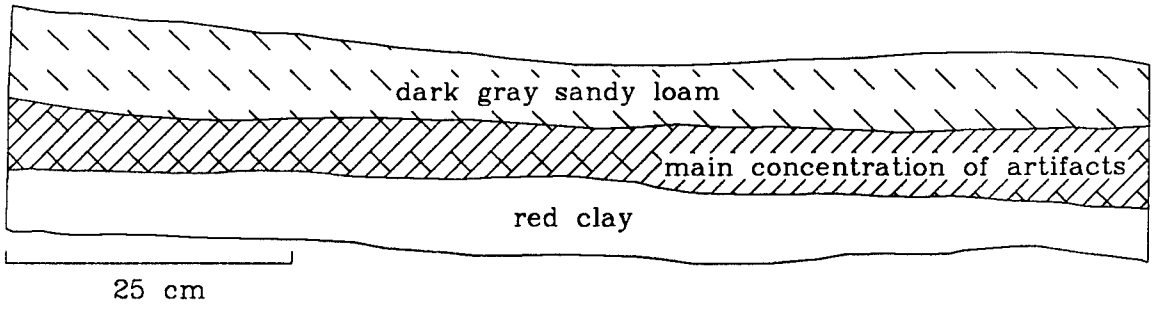


Figure 21. A map of 14RY5104.



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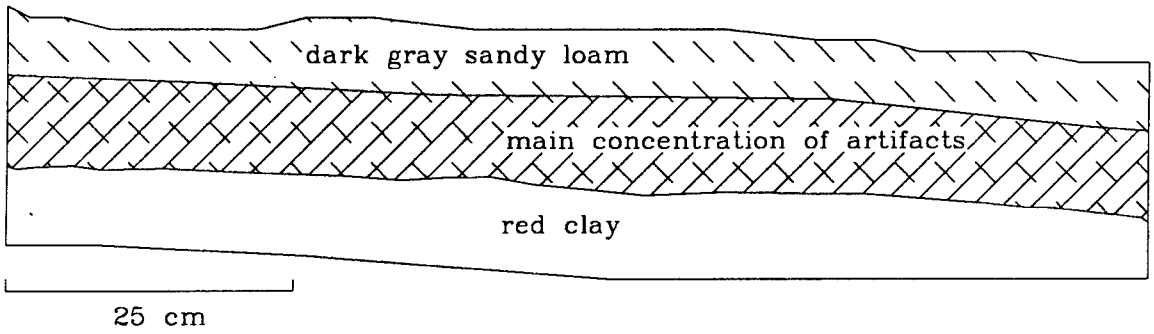

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Figure 22. Drawings of the north wall profile of Test Unit 1 (a) and the north wall profile of Test Unit 2 (b), 14RY5104.

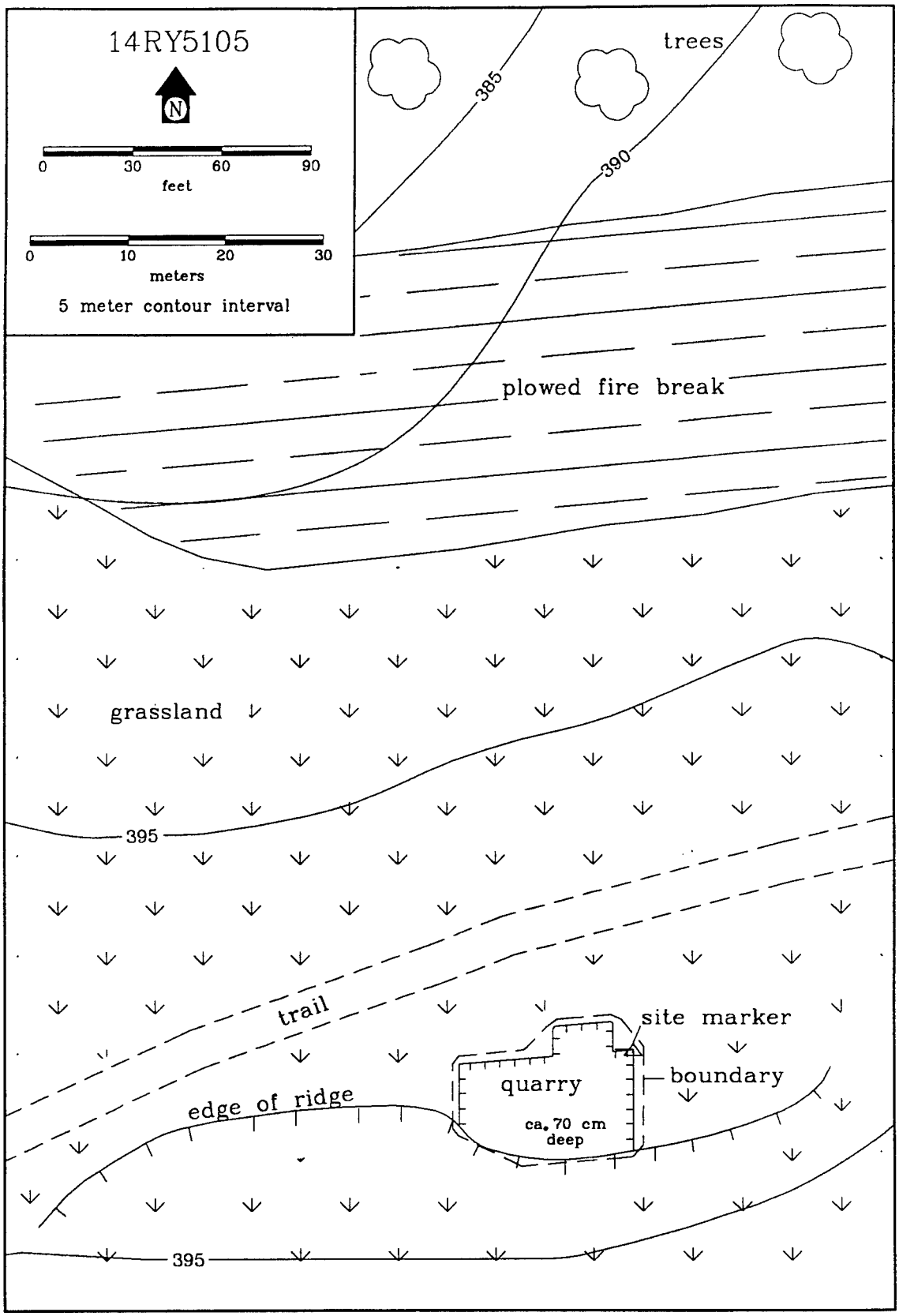


Figure 23. A map of 14RY5105.

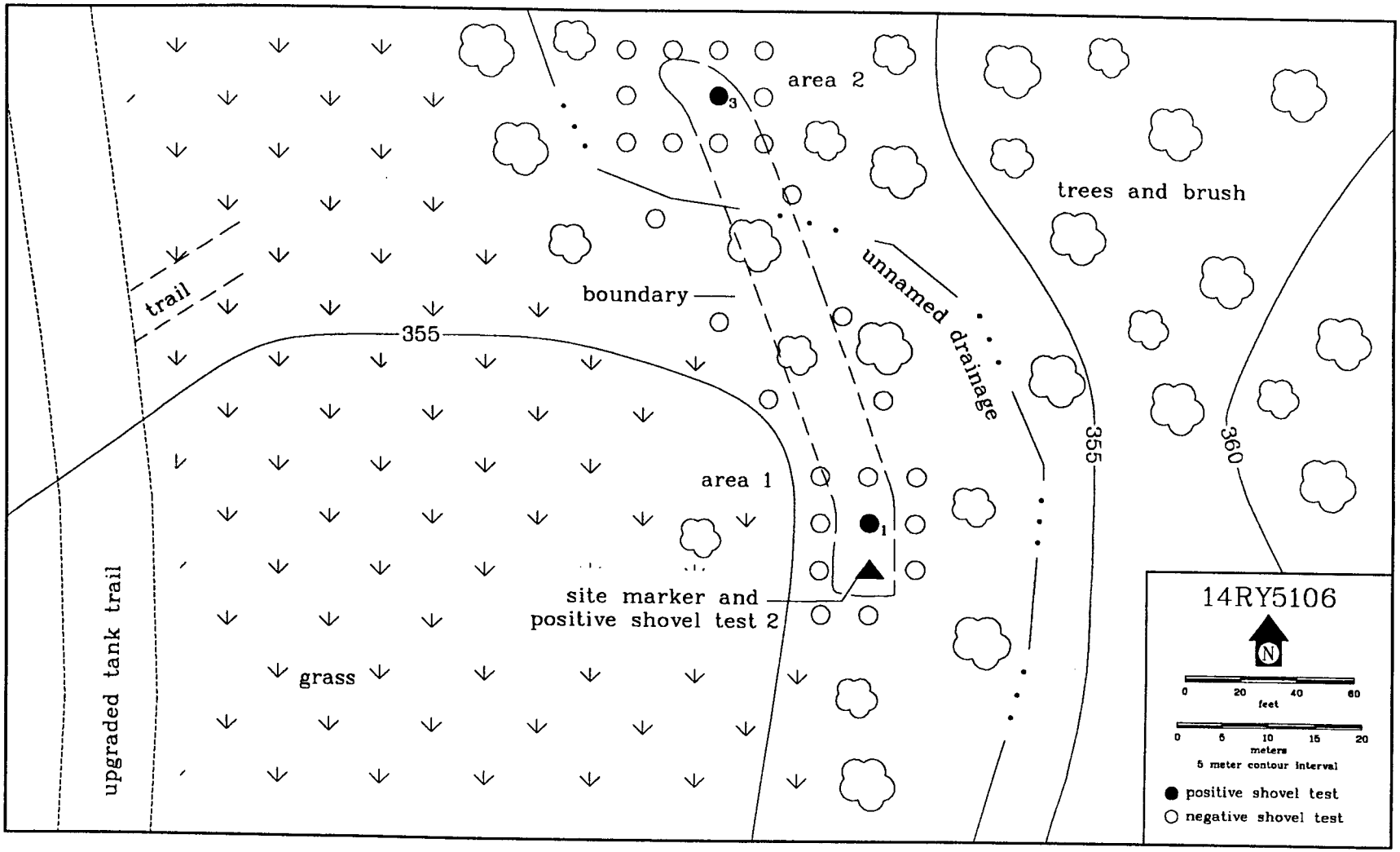


Figure 24. A map of 14RY5106.

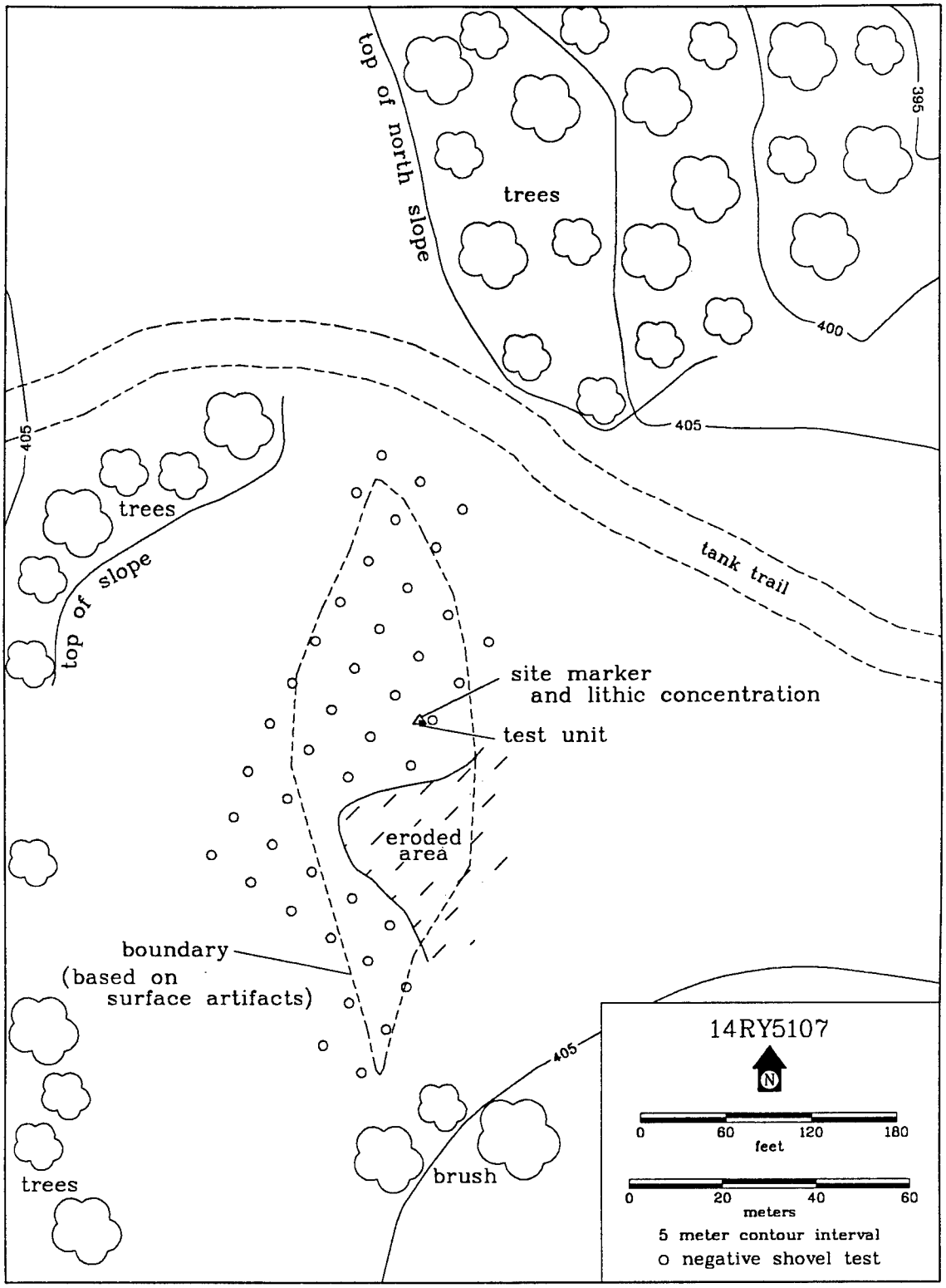


Figure 25. A map of 14RY5107.

channel. Portions of the site area, especially along its eastern boundary, have been deflated by wind erosion.

Forty shovel tests on a five meter grid and a 1-by-1 meter test unit failed to produce any subsurface cultural material. The test unit, portions of which were excavated to 20 cm, revealed a very thin band of modern soil development in the upper part of a loess deposit (Figure 26). Below the loess, a clay substratum was encountered.

14RY5108 (Figure 27)

This isolated find consists of two flakes of Florence chert found in a deflated pocket surrounded by a sparse growth of grass. Two shovel tests excavated next to one of the flakes indicate that there is very little soil development in the immediate vicinity of the artifacts; a clay substratum was encountered one to three cm below the present ground surface. Although no ruts are visible, it also appears that the deposits have been compacted by military vehicle traffic.

14RY5109 (Figure 28)

Approximately 30 flakes of Florence chert and the midsection of a large lanceolate projectile point were observed on the surface at 14RY5109. The site materials are along the northwest end of a cultivated food plot, with a few artifacts, including the point fragment, observed in the uncultivated grassland surrounding the plot.

The point fragment (Figure 17c), which is manufactured from a glossy white chert, has a transverse oblique flaking pattern with very narrow flake scars. The size of the artifact and the flaking pattern are reminiscent of late Paleoindian lanceolate forms such as Jimmy Allen and Frederick (e.g., Wormington 1957; Chapman 1975; Frison 1991).

Twenty-four shovel tests on a five meter grid, most of which were excavated in the uncultivated area of the site, did not produce any subsurface cultural material. A 1-by-1 meter test unit was excavated to 20 cm in order to determine if an intact cultural level could be detected. The test unit revealed a four cm thick zone of mixed loess and sand deposits on top of a substratum of an orange-brown clay (Figure 29). One flake was recovered from the upper 10 cm of testing.

14RY5110 (Figure 30)

This isolated find is a single flake of Florence chert. The artifact was observed on the surface. The location is in a grassland growing on thin loess deposits next to a shallow drainage head. A transect of four shovel tests near the find location did not produce any further cultural material. There are also no other artifacts present in a north-south vehicle trail immediately west of the flake.

14RY5112 (Figure 31)

This isolated find consists of a single flake of Florence chert. The artifact appears to have eroded out of intact sediments exposed in the north edge of a vehicle trail. The location is in a grassland setting north of Elm Hollow. No other flakes were observed in the surrounding trail ruts. A transect of five shovel tests in undisturbed areas near the find location also did not produce any other artifacts.

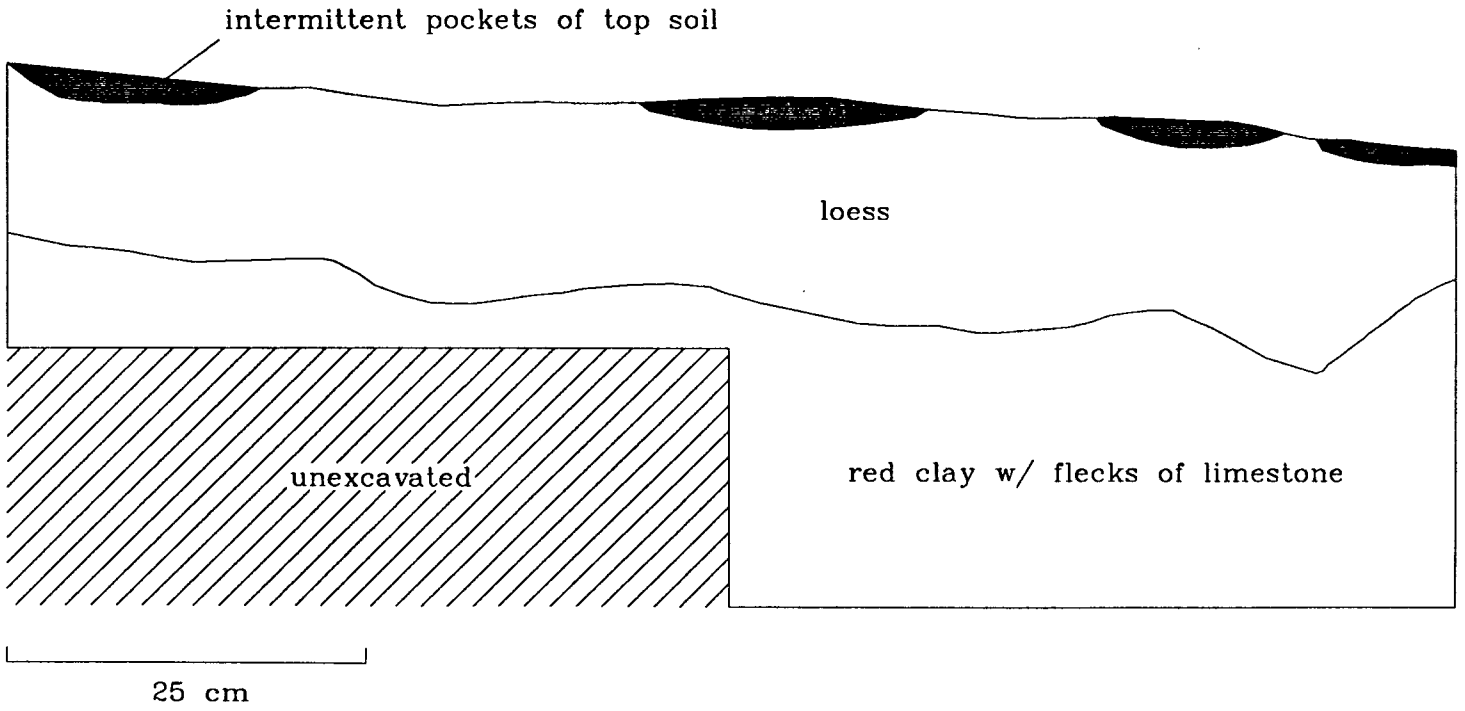


Figure 26. A drawing of the north wall profile from the test unit at 14RY5107.

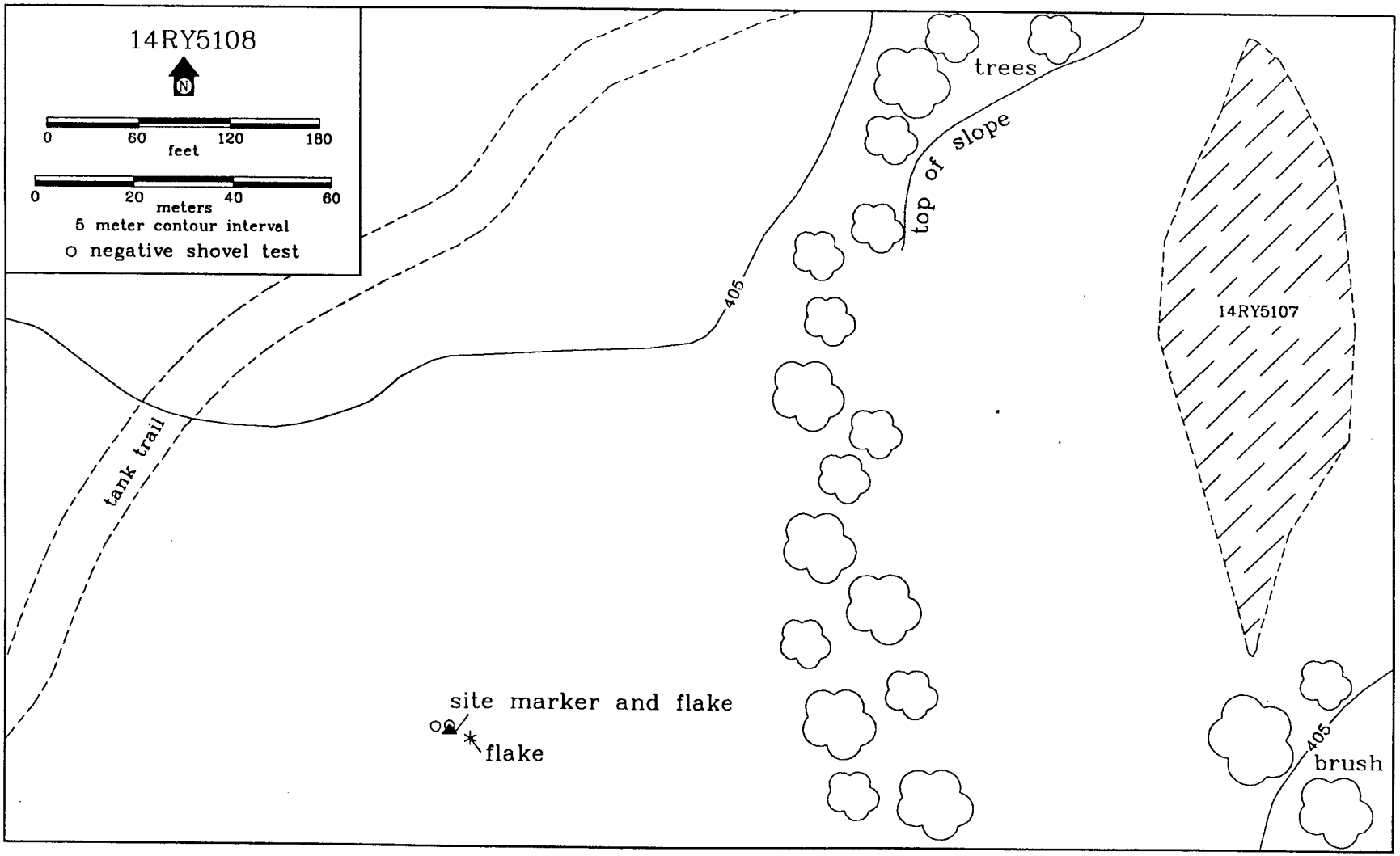


Figure 27. A map of 14RY5108.

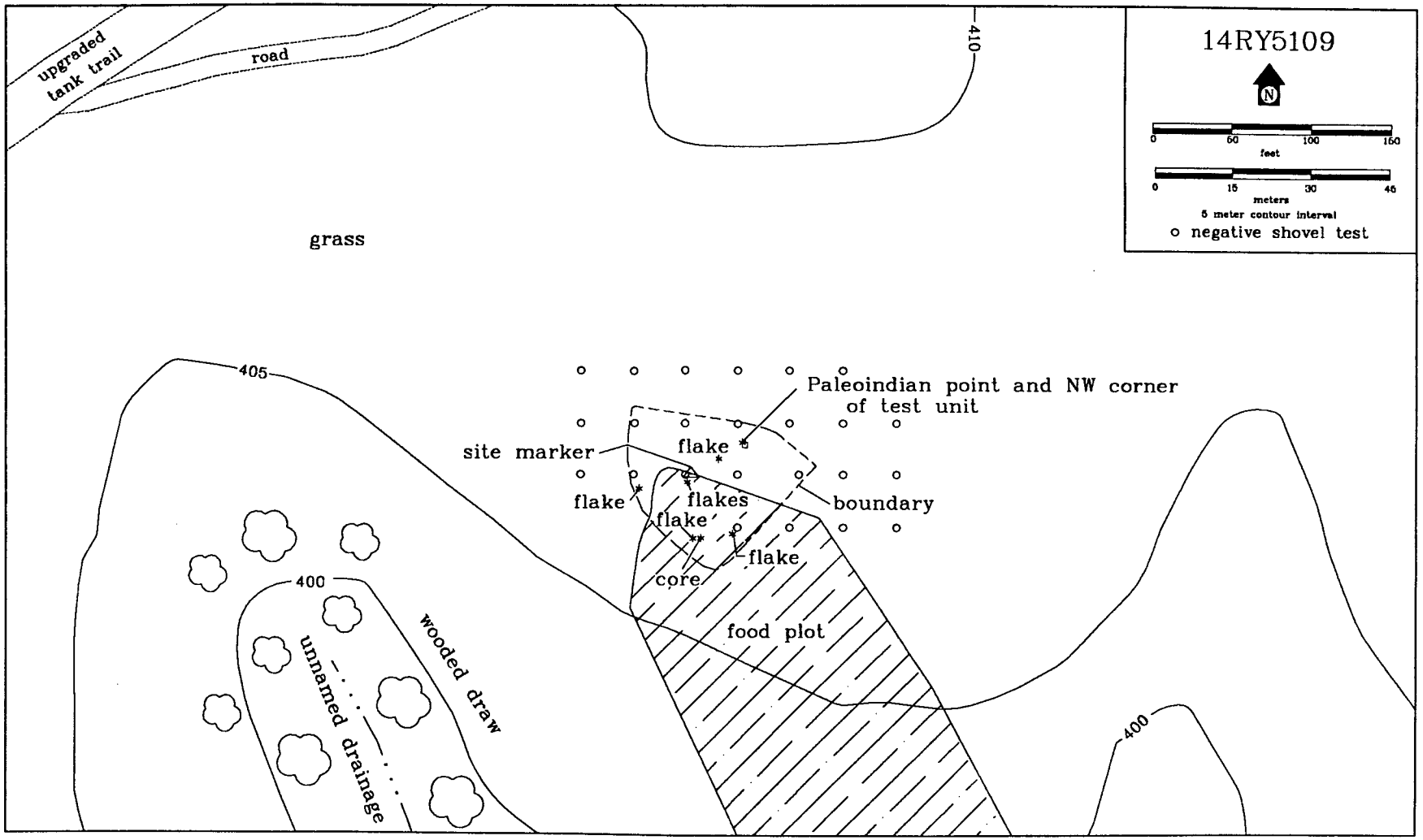


Figure 28. A map of 14RY5109.

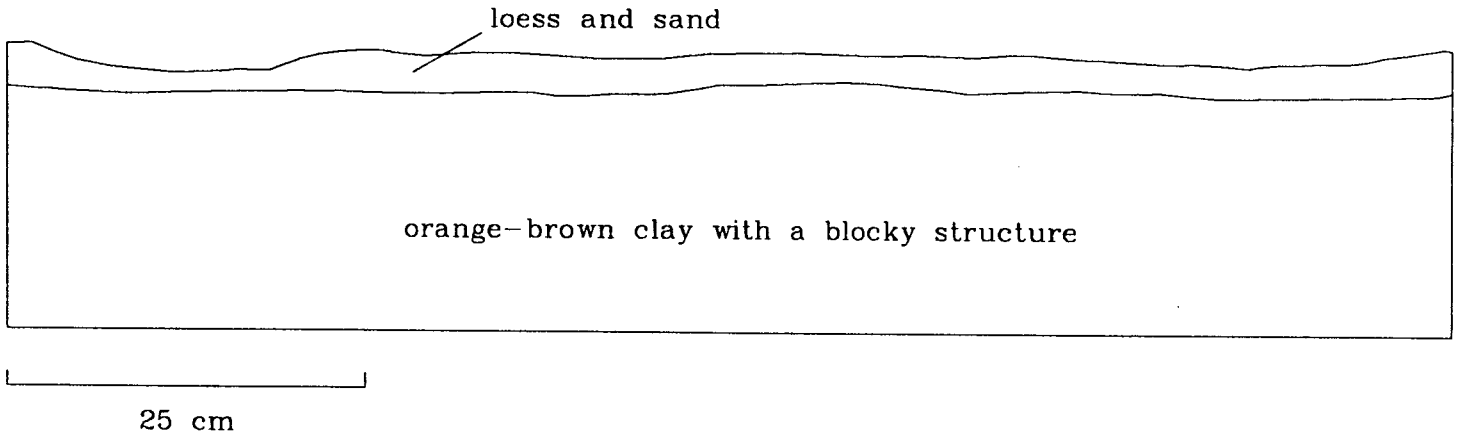


Figure 29. A drawing of the west wall profile from the test unit at 14RY5109.

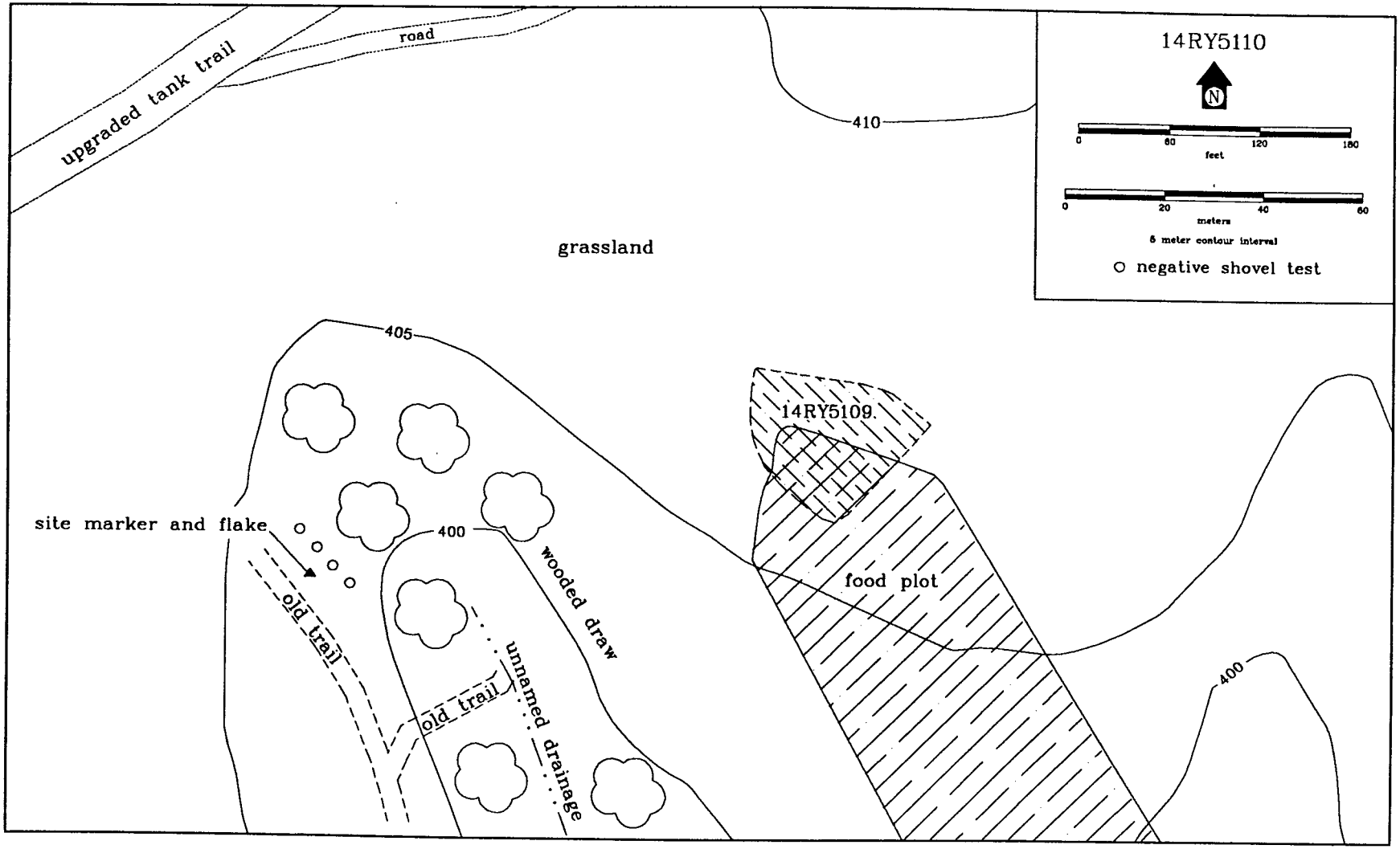


Figure 30. A map of 14RY5110.

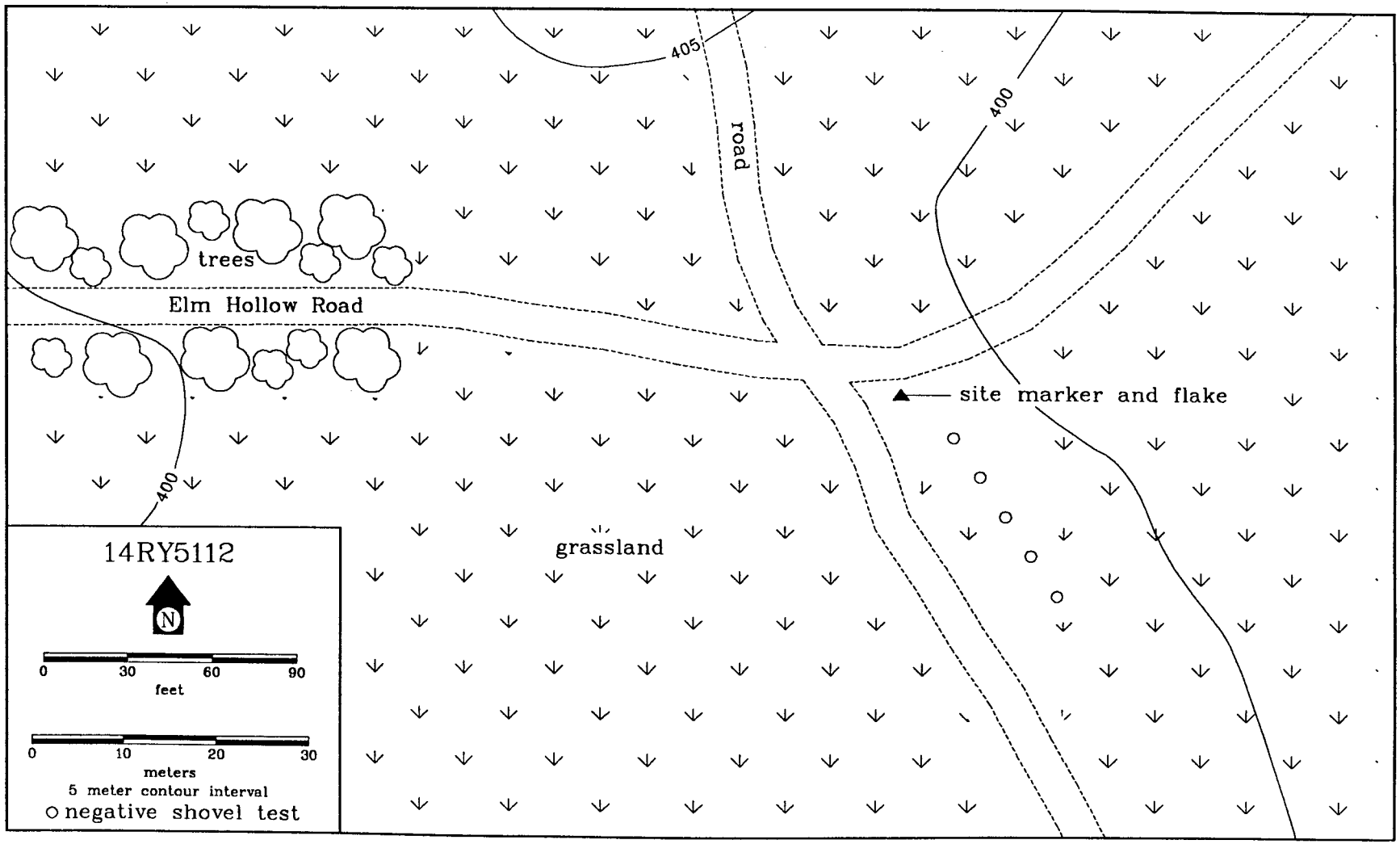


Figure 31. A map of 14RY5112.

14RY5113 (Figure 32)

This isolated find is a fragment of the base of a green glass wine bottle. There appears to be early Owens machine marks around the edge of the base. A fairly heavy patina has formed on interior portions of the bottle. No maker's marks are visible on the fragment. The artifact was found in an area south of the Elm Hollow drainage bottom that has been heavily disturbed by mechanical blading. No other artifacts or features were observed.

14RY5114 (Figure 33)

This isolated find is a flake of Florence chert. It appears that the artifact has eroded out of the edges of a vehicle trail. The flake has fresh breaks from vehicle traffic and it has probably been displaced from its original location. It is resting on limestone bedrock. No other material was observed in the unvegetated ruts.

14RY5116 (Figure 34)

A small core and five flakes of Florence chert were found on a grass covered bluff top that overlooks Elm Hollow to the north. All of the artifacts are exposed in a north-south vehicle trail. Shovel testing at five meter intervals on either side of the trail revealed a zone of soil development less than five cm thick. No artifacts were recovered from the shovel tests.

It appears that this site was small to begin with and that it has been extensively disturbed by the vehicle activity. There are no indications of features and no patterning to the distribution of the artifacts.

14RY5117 (Figure 35)

This isolated find is a flake of Florence chert. It was found in an area in which much of the vegetation has been removed by vehicle traffic and bivouacking. Although a large area of clear ground was inspected around the flake, no other artifacts were observed.

14RY5118 (Figure 36)

This isolated find consists of three flakes of Florence chert. The artifacts were observed on undisturbed ground surface next to a north-south vehicle trail. Vegetation in the immediate vicinity of the flakes consists of a sparse cover of grass. Inspection of the surrounding area and the vehicle ruts did not reveal any other cultural material.

14RY5119 (Figure 37)

This isolated find consists of an aquamarine tinted bottle base. It was found in a cultivated fire break along the eastern boundary of the post. The location is near the base of a large hill and the plowing of the fire break has probably moved the artifact down slope from its original location. Based on the size and shape of the base, the bottle was probably a round, one quart whiskey bottle. There is an "M" maker's mark slightly offset from the center of the base.

14RY5120 (Figure 38)

This site consists of at least five military-style "corkscrew"-shaped metal fence posts. Several of the posts are still anchored in the ground. Others are lying flat and are nearly covered with sod. The location containing the posts is a small bench at the base of a

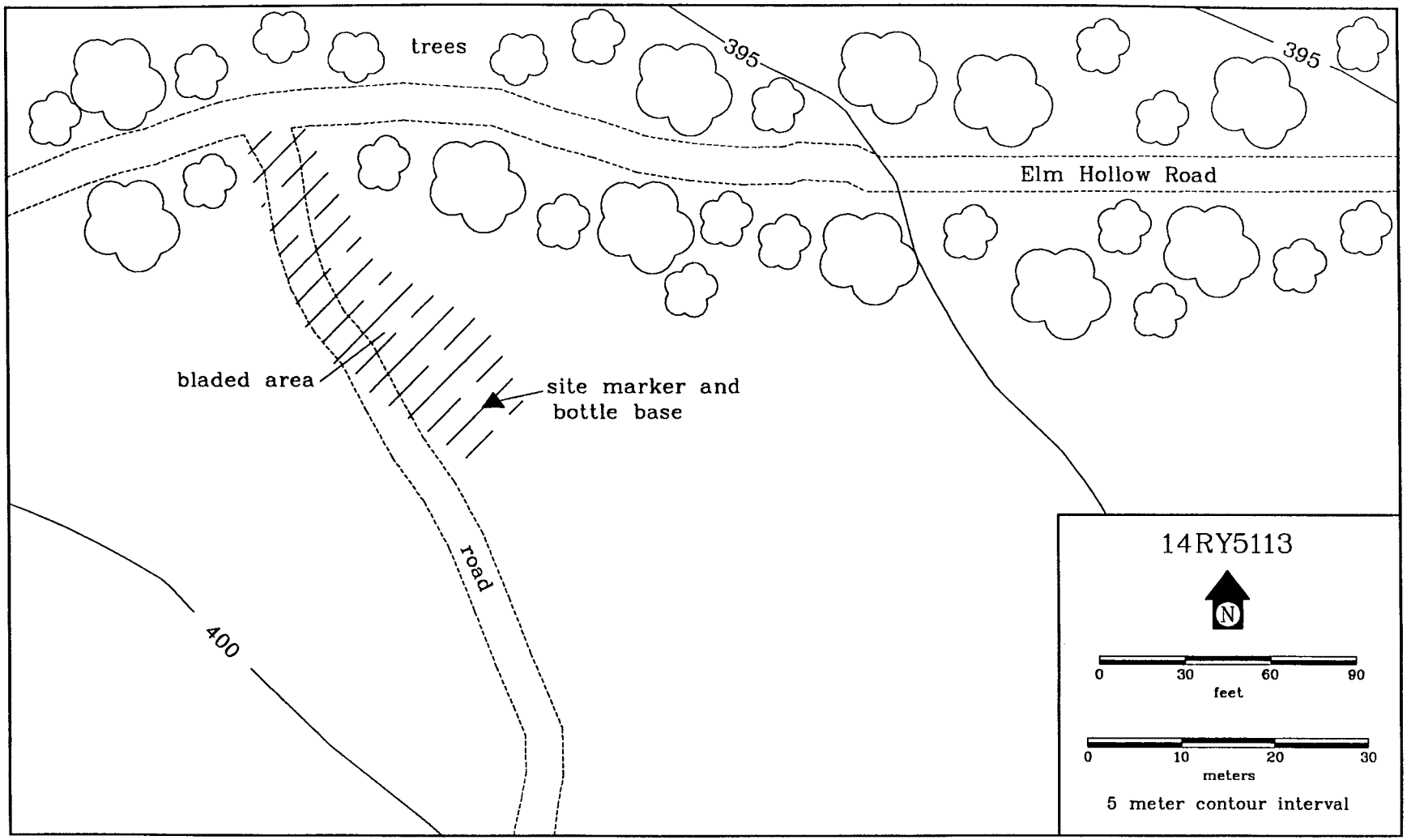


Figure 32. A map of 14RY5113.

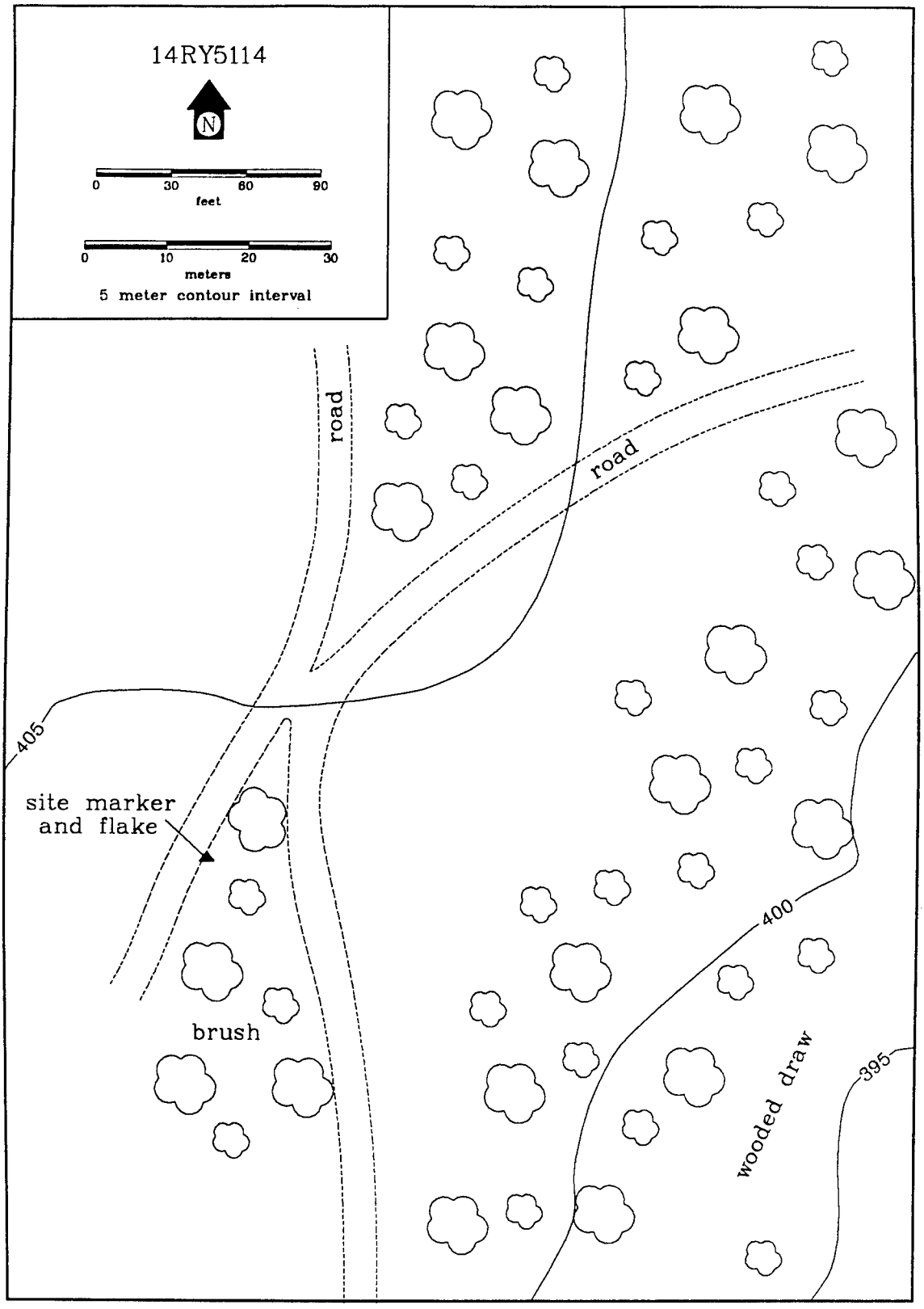


Figure 33. A map of 14RY5114.

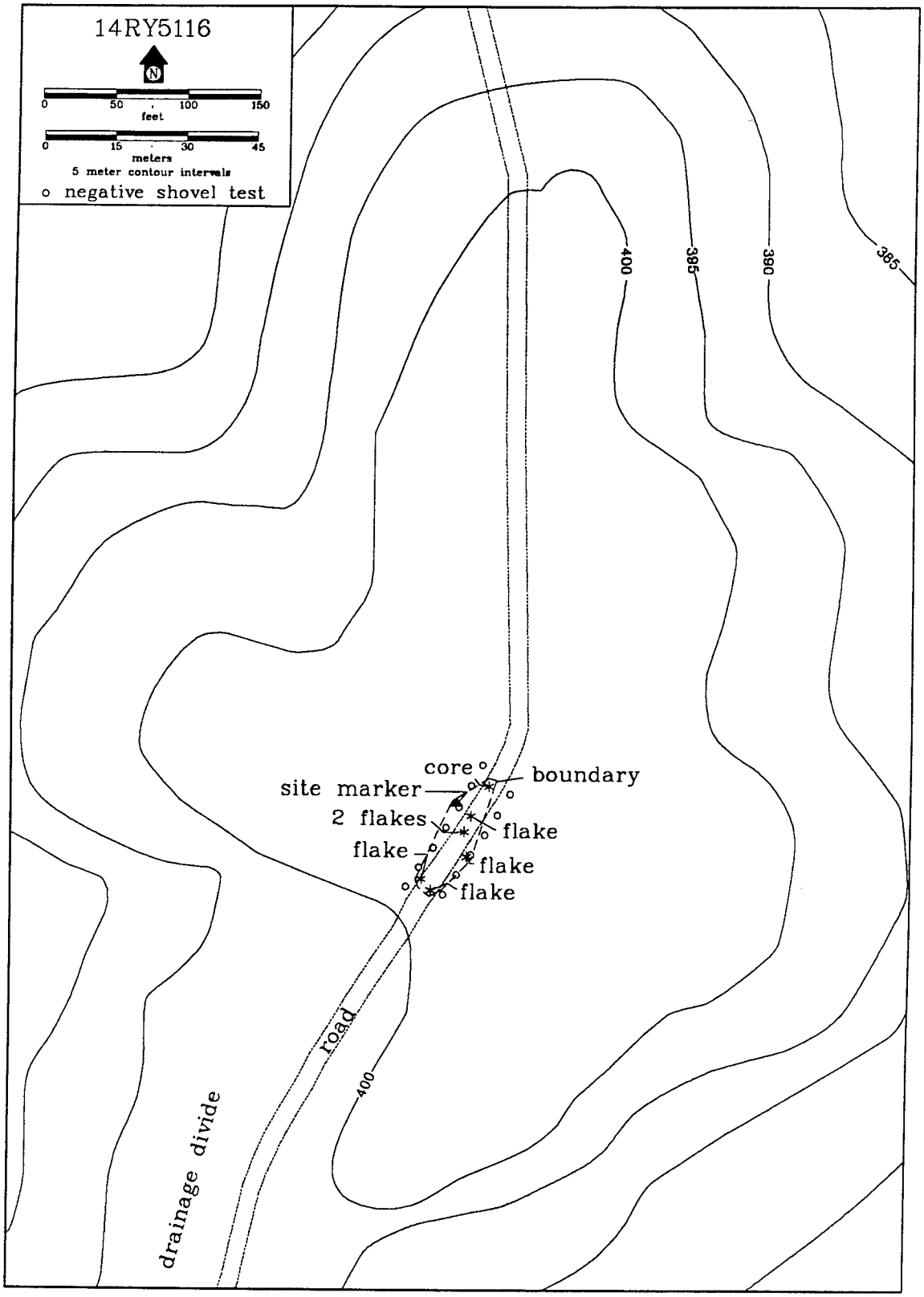


Figure 34. A map of 14RY5116.

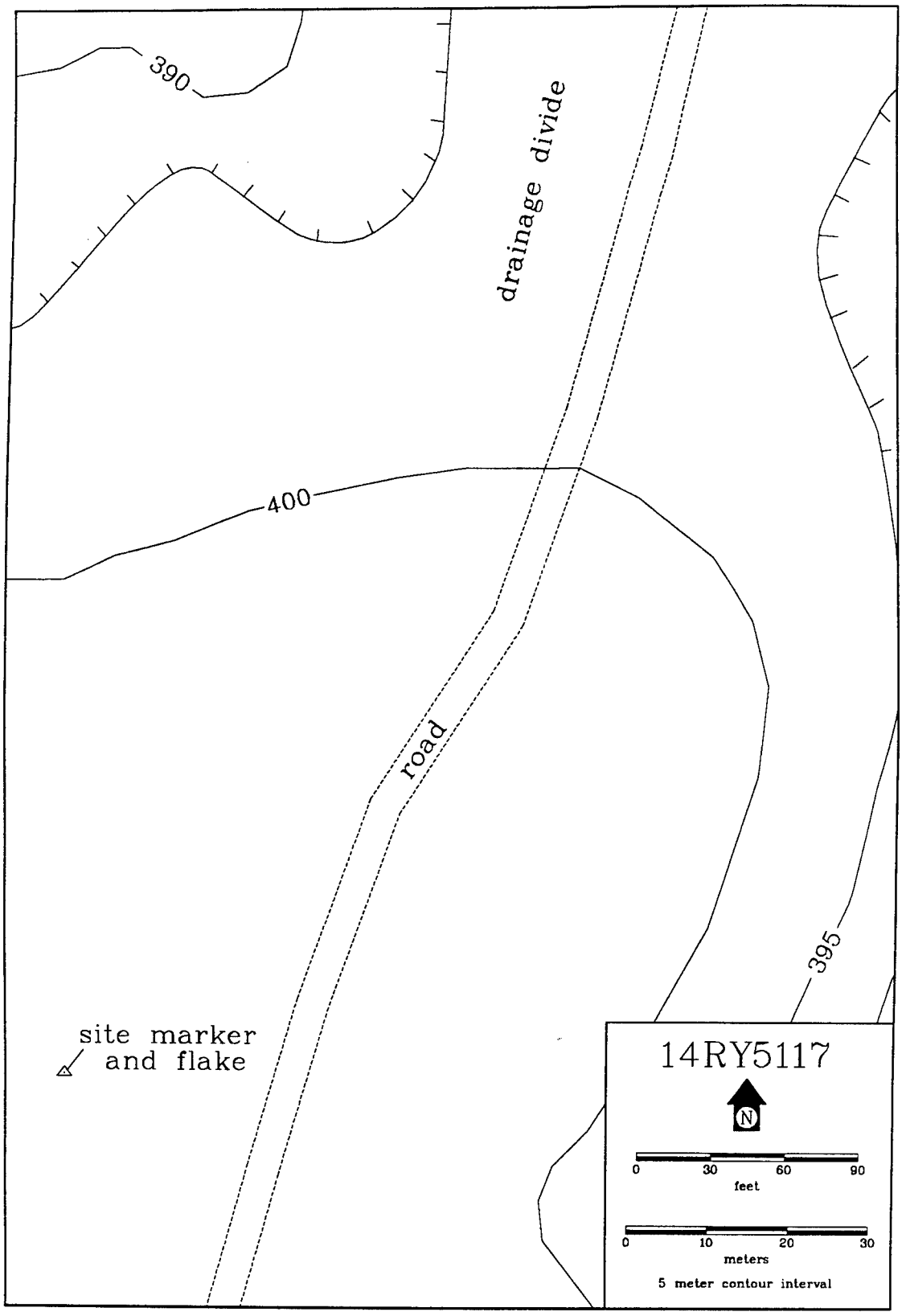


Figure 35. A map of 14RY5117.

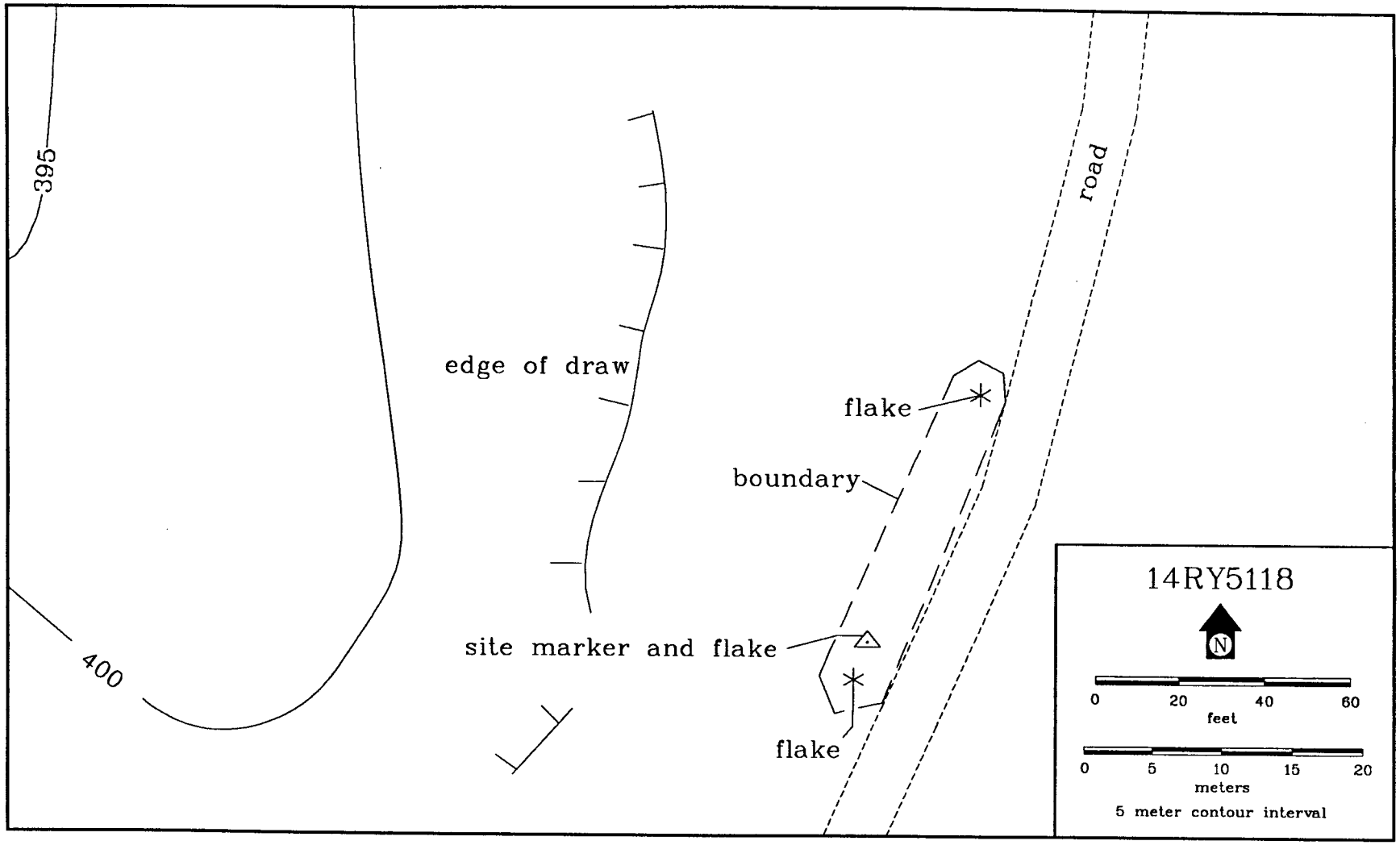


Figure 36. A map of 14RY5118.

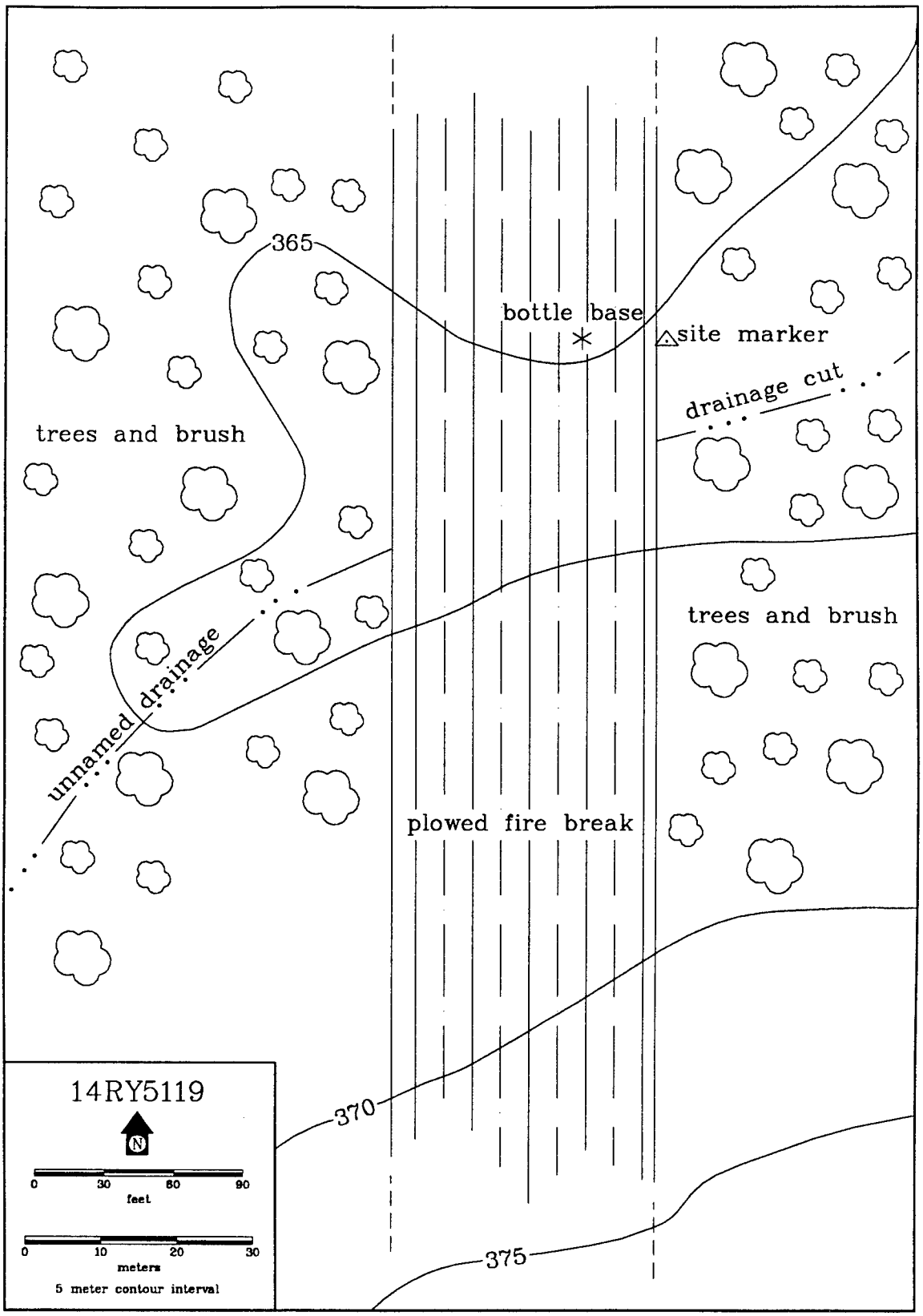


Figure 37. A map of 14RY5119.

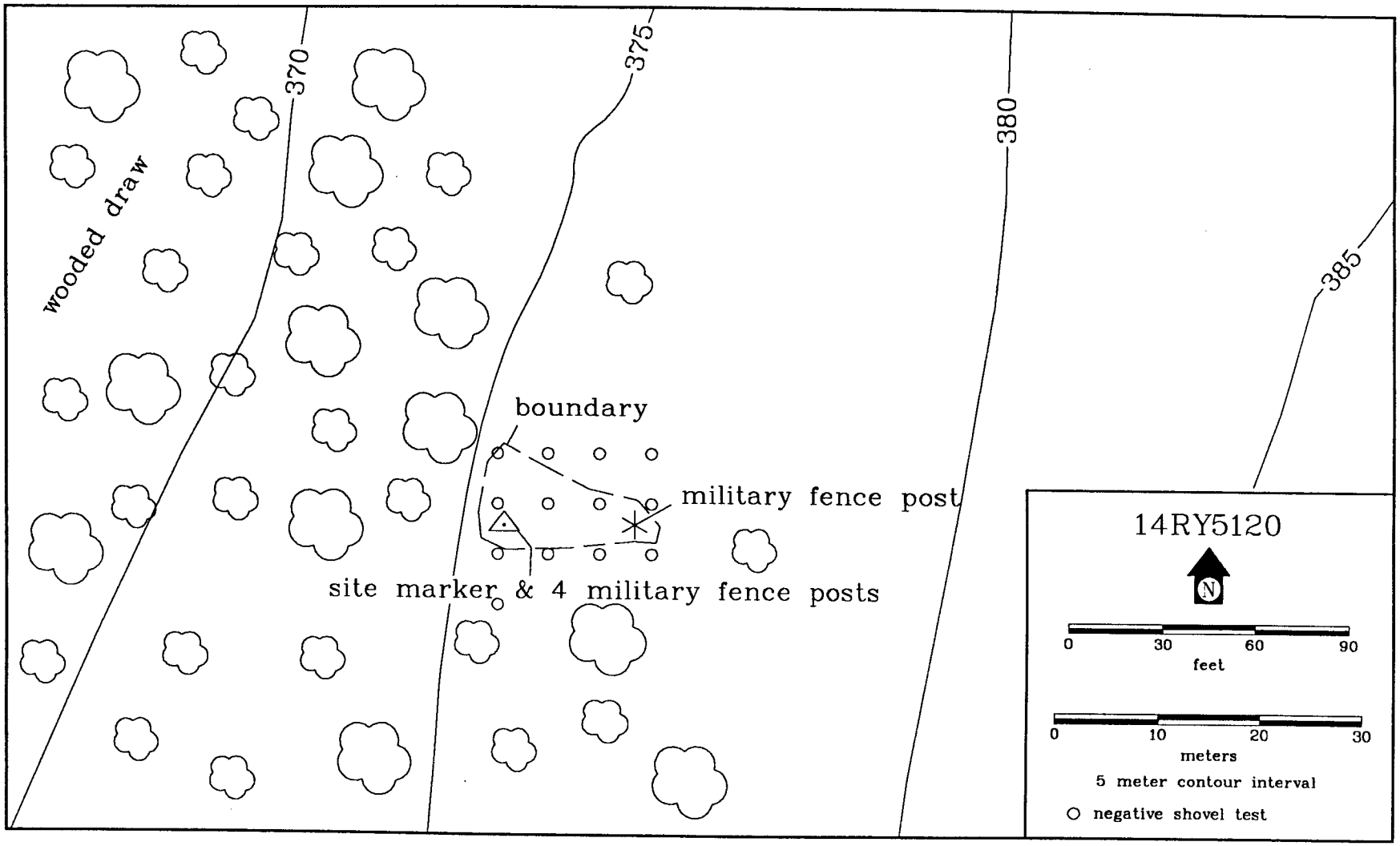


Figure 38. A map of 14RY5120.

steep hill. The site area is covered with grass and is surrounded on three sides by dense woods and brush.

The setting suggests that the fence posts may have been set up to enclose a temporary livestock corral. Another military use for these types of fence posts, however, appears to have been in defensive perimeters prior to the development of modern concertina wire.

Several feet of barbed wire are still intertwined around one of the metal posts. The two-strand wire has four-point barbs on 4.25 inch centers. The style appears to be Curtis' Loop, Four-Point Barb (Clifton 1970). Although this type of barbed wire was patented in 1893, it is still in common use today (e.g., Tetra Tech 1985) and therefore is not a particularly good age indicator.

A series of shovel tests on a five meter grid failed to produce any additional cultural material at 14RY5120. The exact age and function of the historic artifacts on this site are presently unknown.

14RY5121 (Figure 39)

This isolated find consists of two Florence chert flakes from two shovel tests 20 meters apart. The location is within a dense concentration of brush and heavy grass cover near the base of a major ridge. It appears that the area may have once been cultivated. Additional shovel tests on five meter grids around both of the positive shovel tests failed to produce any other artifacts.

14RY5122 (Figure 40)

This isolated find consists of a flake of Florence Chert found in the rut of a vehicle trail. This trail is between a series of cultivated fields and food plots to the south and a dense stand of brush to the north. The area immediately surrounding the find location is relatively clear of vegetation. No additional artifacts were observed.

14RY5123 (Figure 41)

This isolated find consists of a single military-style "cork screw"-shaped metal fence post. The post is still embedded in the ground and in an upright position along the south rim of a shallow, steep sided limestone canyon. Although this type of post may be fairly old (see discussion of 14RY5120), this particular one was probably used during the period of World War II training at Fort Riley. The fence post was recorded as an isolated find primarily because it may have value if used in a museum display or other type of interpretive facility.

14RY5124 (Figure 42)

This isolated find is a single piece of purple-tinted bottle glass found in a cultivated field. The artifact is approximately 300 meters west of previously recorded historic site 14RY2132. No other materials were observed.

14RY5125 (Figure 43)

This site consists of a concentration of highly disturbed, and likely redeposited, prehistoric cultural material. The site area is on top of what appears to be a naturally deposited gravel bar laid down by Sevenmile Creek. Besides this gravel bar, other gravels are present in the form of several crowned roadbeds (now abandoned and overgrown) that

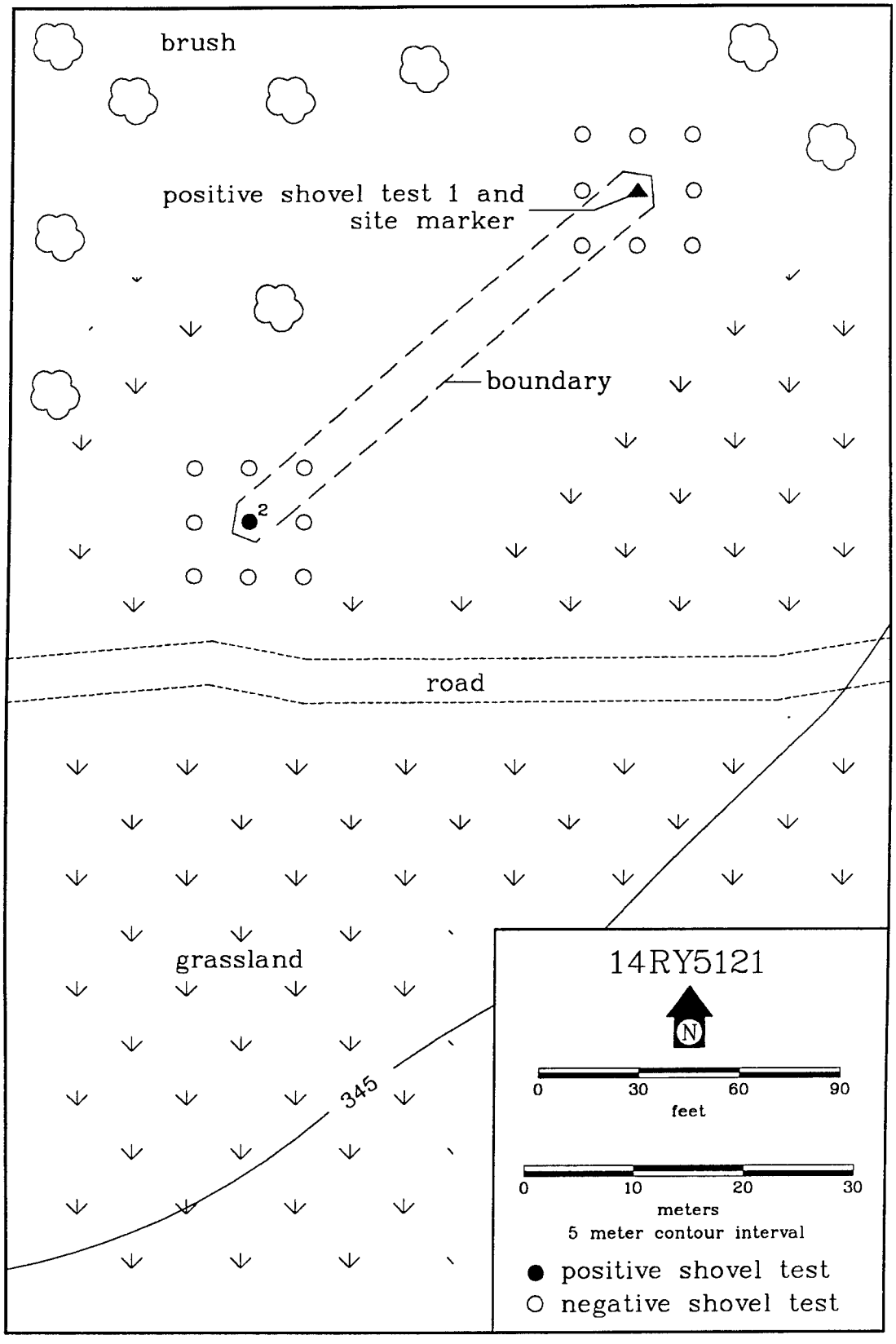


Figure 39. A map of 14RY5121.

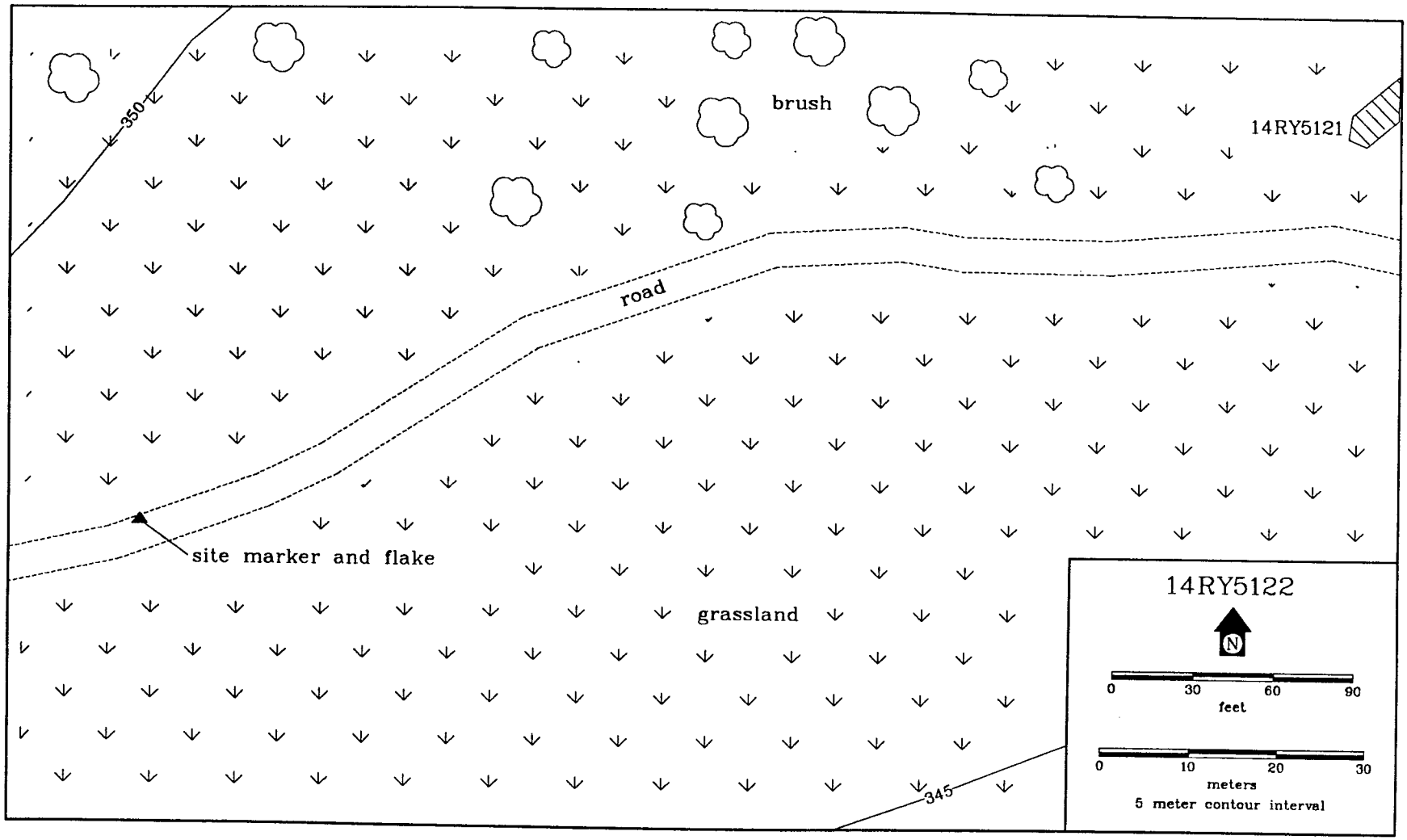


Figure 40. A map of 14RY5122.

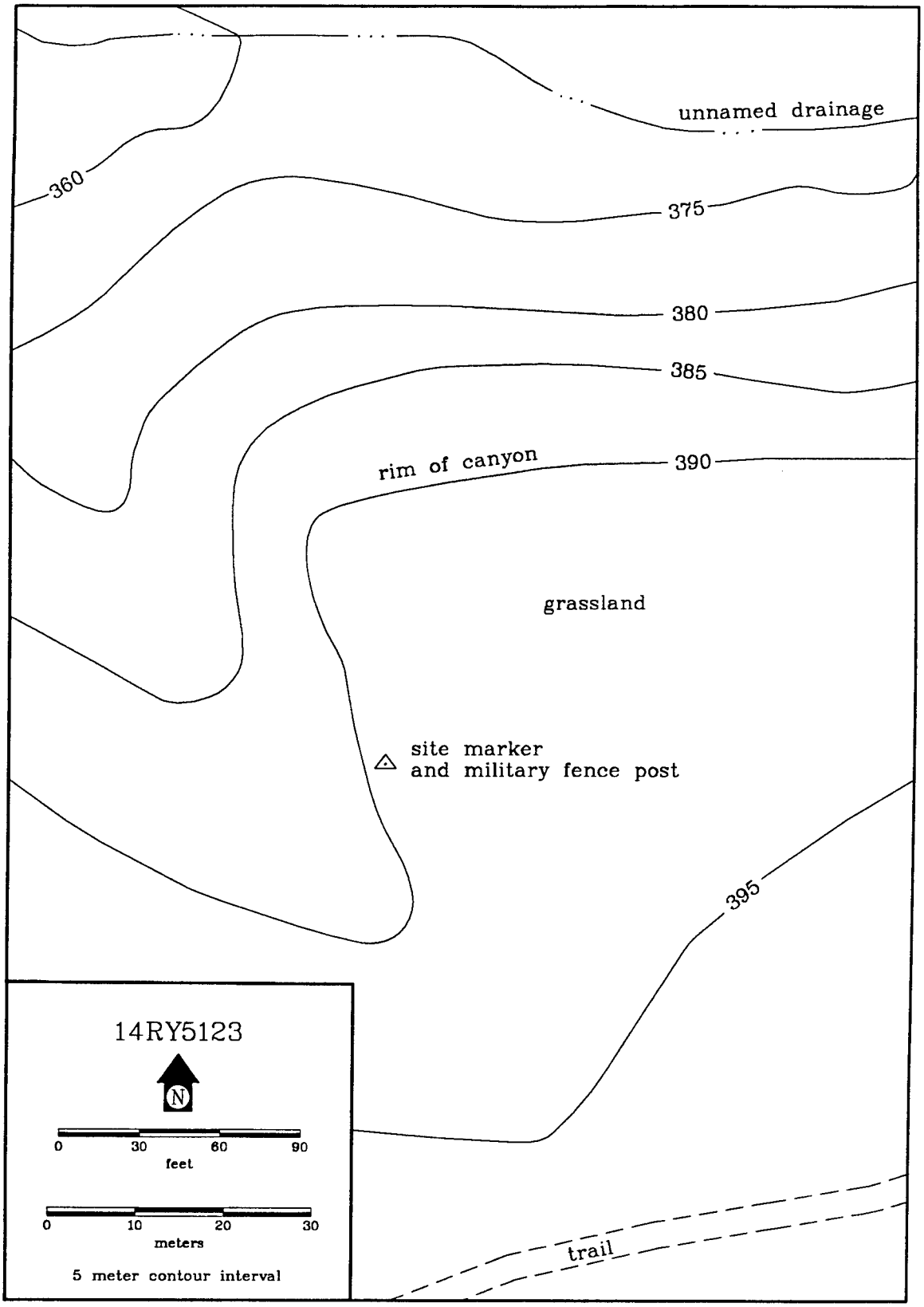


Figure 41. A map of 14RY5123.

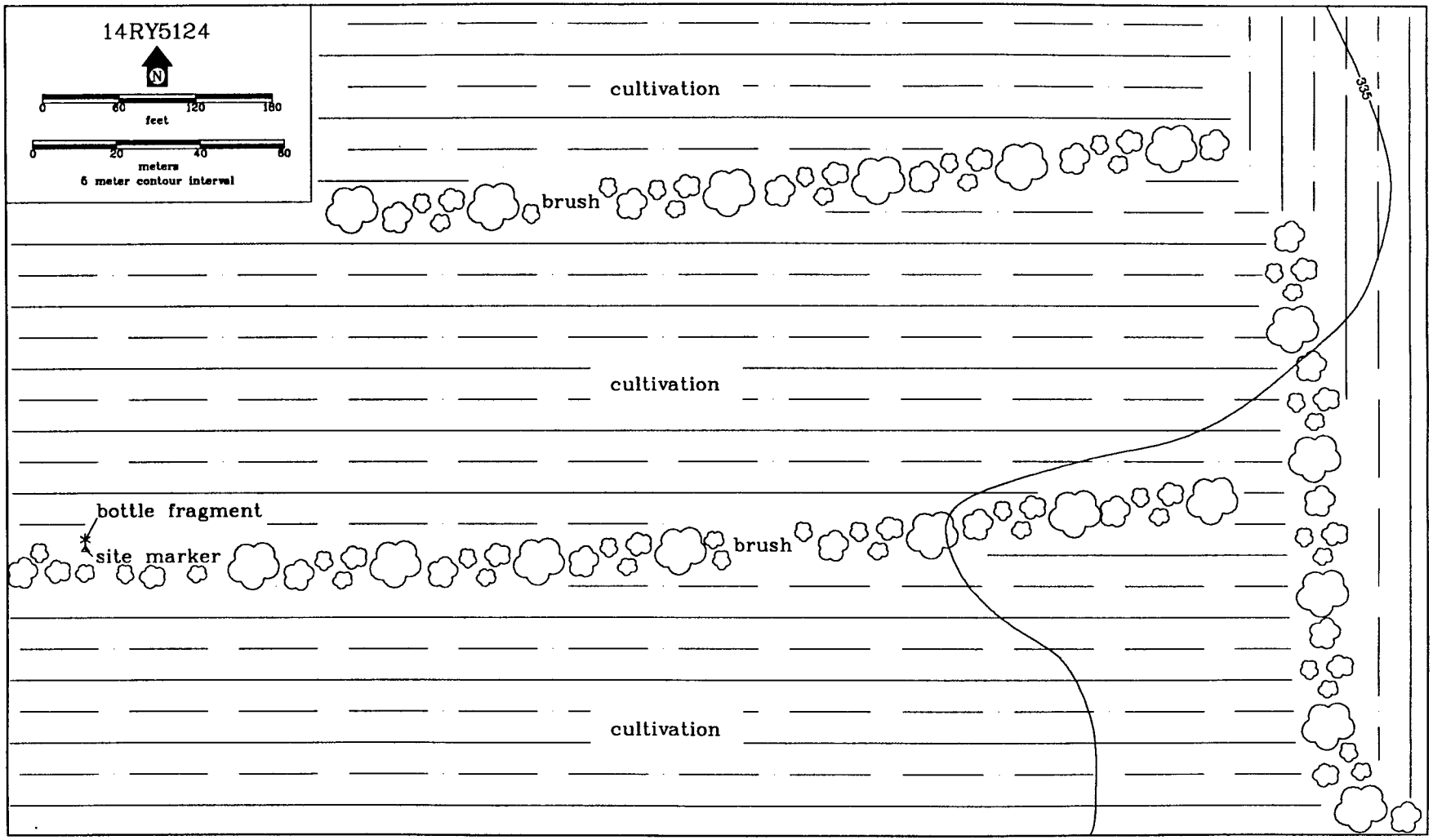


Figure 42. A map of 14RY5124.

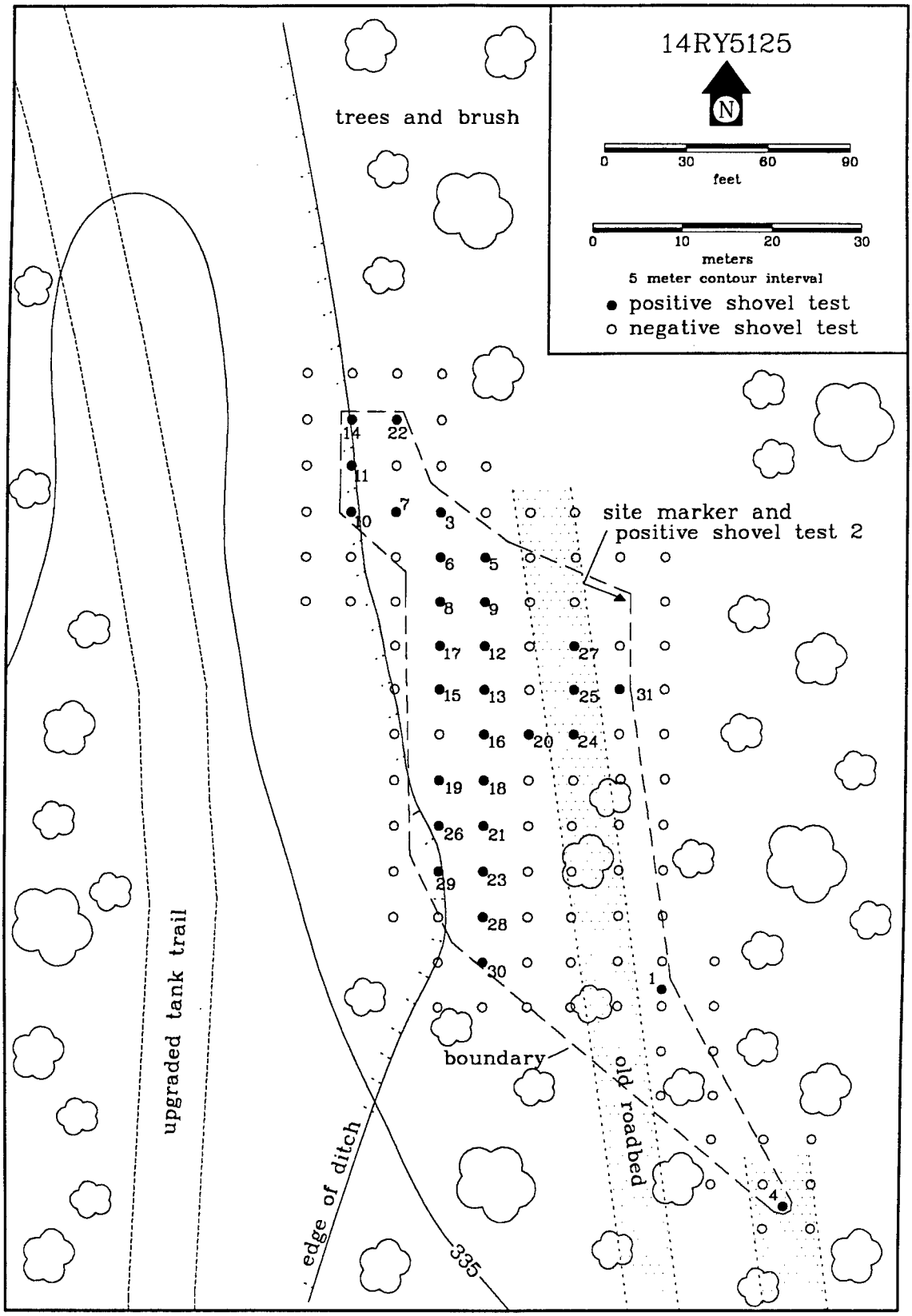


Figure 43. A map of 14RY5125.

parallel the current upgraded tank trail.

Cultural materials were recovered from 34 shovel tests on a five meter grid. All of the artifacts came from very gravelly deposits only a few centimeters below the present ground surface. The recovered artifacts consist of 89 flakes, a biface fragment, a large end scraper (Figure 17d), and a flake tool.

On examining the location of the positive shovel tests, it is apparent that artifacts were recovered from both the old roadbed areas and the natural gravel bar. It therefore seems likely that the entire site area is highly disturbed by flooding and construction. The artifacts in the roadbed may actually have been introduced into the site area from some other gravel pit location. Conversely, they may indicate that portions of the naturally occurring gravel bar, containing artifacts, were simply heaped up to create the raised road surfaces.

14RY5126 (Figure 44)

This isolated find consists of three flakes from three separate shovel tests 20 meters apart. The flakes were found on what appears to be the first terrace above the modern flood plain of Sevenmile Creek. Shovel testing on separate five meter grids around the original three locations failed to produce any further artifacts.

14RY5127 (Figure 45)

This isolated find consists of two flakes of Florence chert from a single shovel test. The artifacts were discovered in a densely wooded area inside a large meander of Sevenmile Creek. The location is north of an old section line road. A five meter grid of shovel tests around the original location did not produce any other artifacts.

14RY5128 (Figure 46)

This isolated find consists of two flakes of Florence chert from a shovel test. The flakes were found in a heavily wooded area just south of an abandoned section line road. A five meter grid of shovel tests around the original location did not produce any artifacts.

14RY5129 (Figure 47)

This site area has produced ceramics, daub, lithics and charcoal from the subsurface. The materials were found in a wooded area on what is interpreted to be the flood plain and the first terrace above the flood plain of Sevenmile Creek.

First found in shovel testing, the boundaries of 14RY5129 were defined through additional shovel tests on a 10 meter grid. Two test units were excavated, one on top of the upper terrace and one on the flood plain. In Test Unit 1, on the flood plain, cultural materials were found in a continuously high density from the surface to 50 cm. The upper 20 cm of the deposits in Test Unit 1 are a loose, sandy matrix tentatively interpreted to be due to overbank deposits from the flooding of Sevenmile Creek. Below 50 cm, artifact densities drop off steadily. Artifacts seem to be absent below the contact with a light brown silty clay (Figure 48a).

In Test Unit 2, on the upper terrace, the main concentration of artifacts appears to be between 20 and 30 cm below the present ground surface. This material is near the top of a consolidated brown loam (Figure 48b).

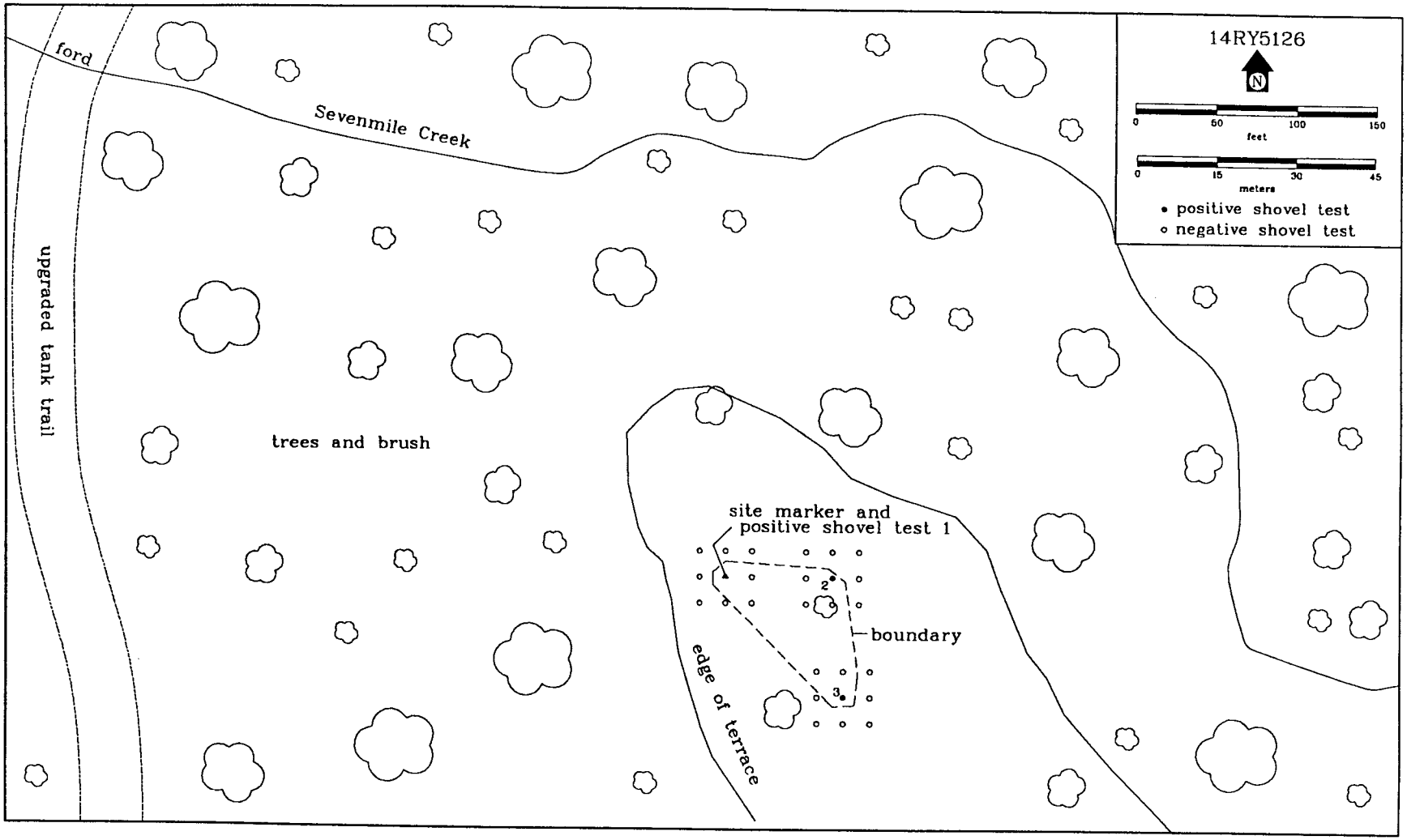


Figure 44. A map of 14RY5126.

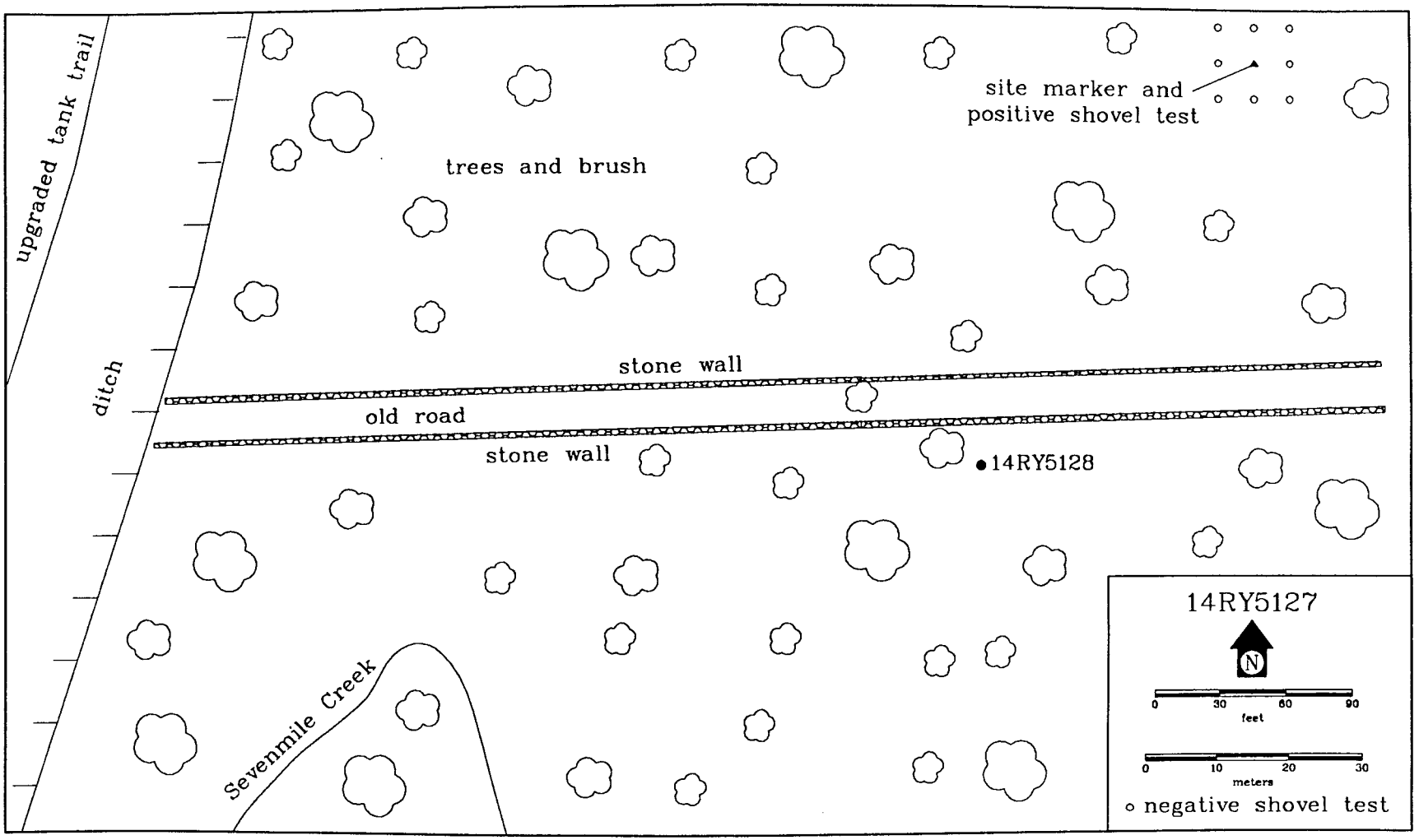


Figure 45. A map of 14RY5127.

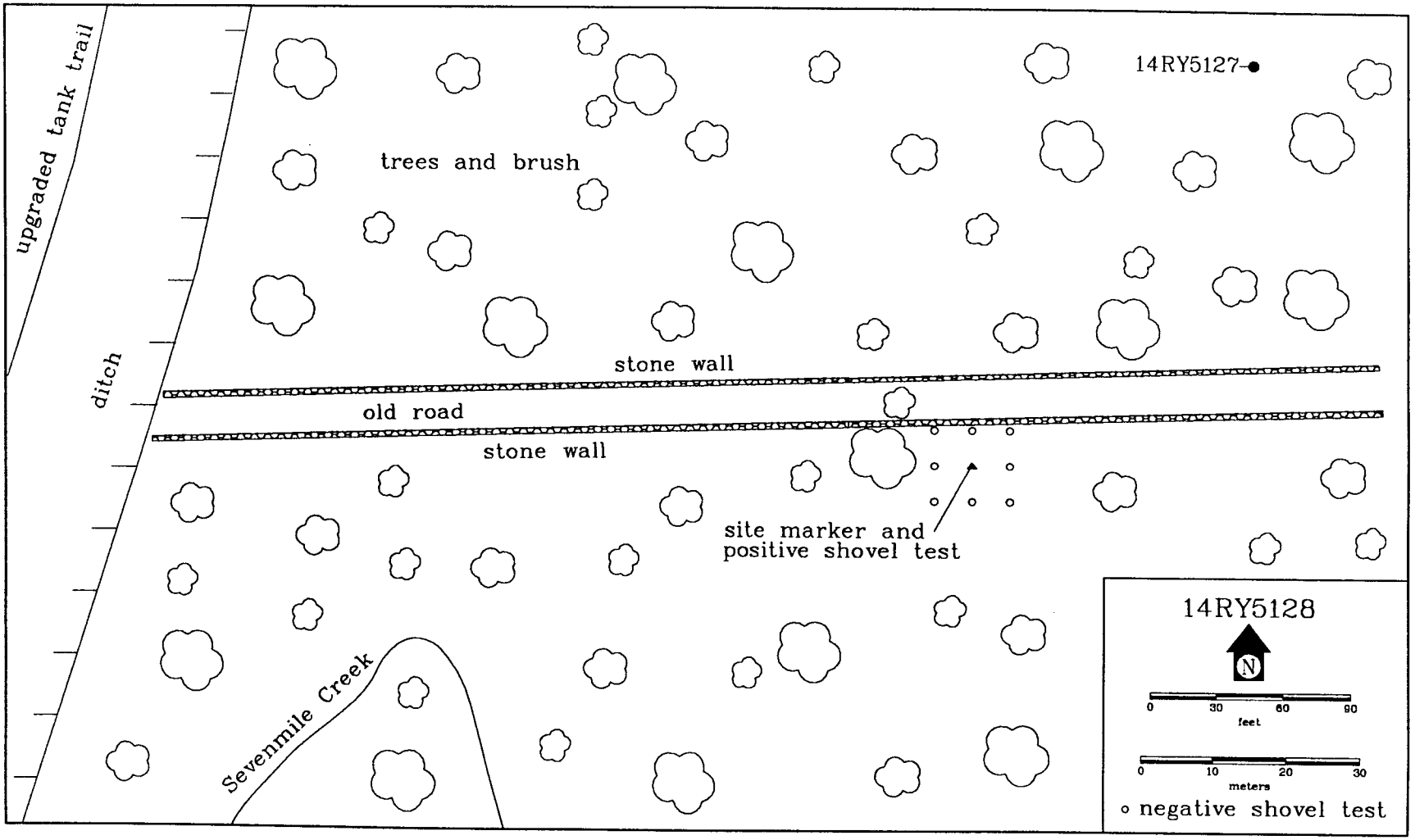


Figure 46. A map of 14RY5128.

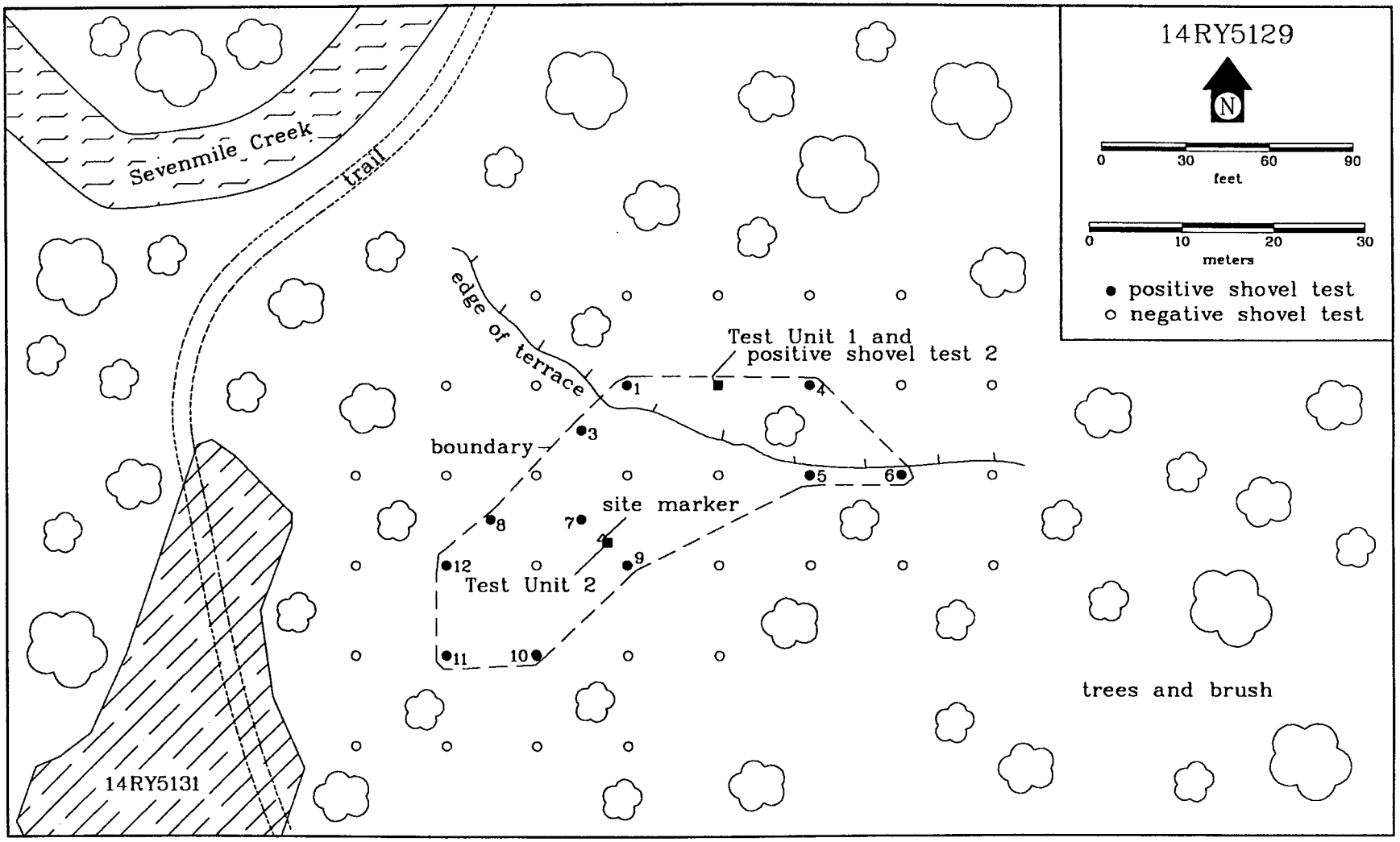
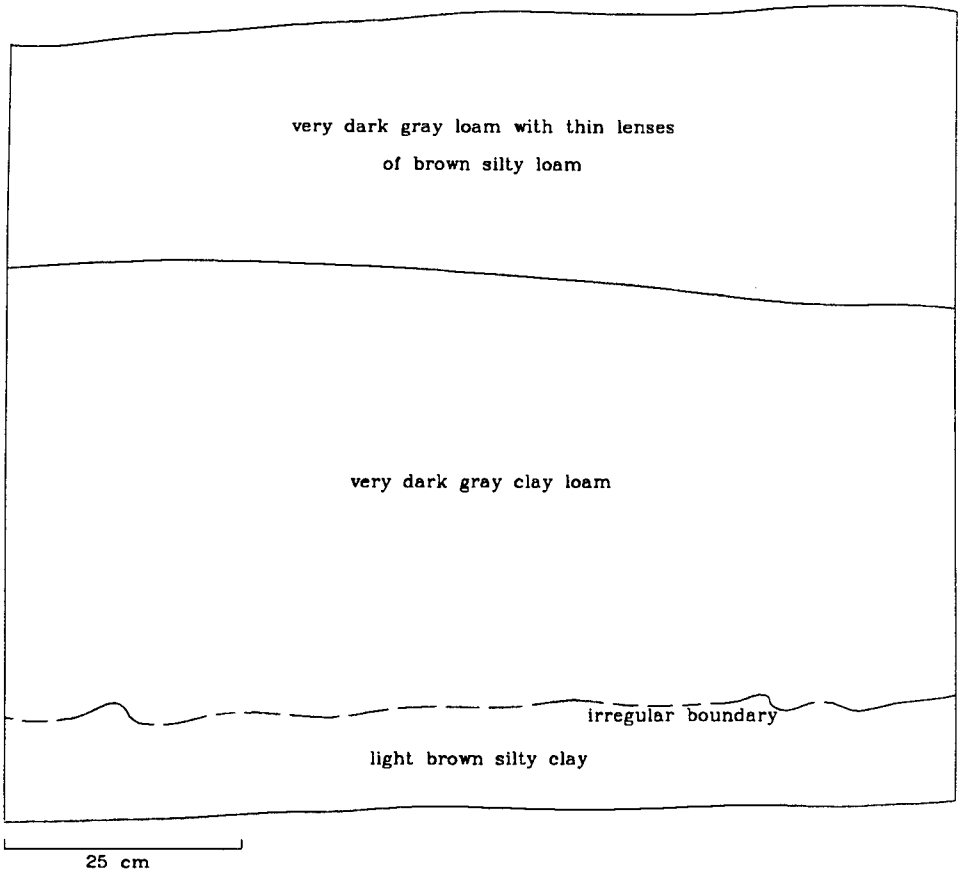


Figure 47. A map of 14RY5129.



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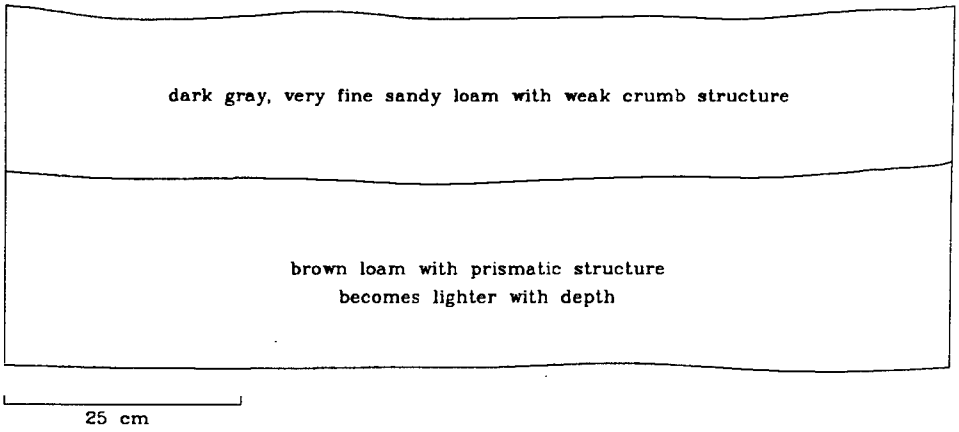

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Figure 48. Drawings of the south wall profile of Test Unit 1 on the flood plain (a) and the west wall profile of Test Unit 2 on the upper terrace (b), 14RY5129.

The lithic assemblage from 14RY5129 consists mainly of unmodified flaking debris. Small flake tool fragments were the only chipped stone tools recovered; no projectile points or other time-diagnostic lithics have been found.

The ceramics recovered from 14RY5129 are fairly homogeneous in appearance. In general, temper is quite sparse. When it can be seen, shell tempering is predominant. A few sherds exhibit what appears to be crushed ceramic temper. Surfaces are smooth; there is no indication of cord roughening or stamping. Twenty-two measurable body sherds have a range of thicknesses from 3.1 to 10.3 mm, with a mean of 5.3 mm. Two body sherds have incised line decorations but the specimens are too small to identify a specific pattern (Figure 17e and 17f). Rims (Figure 17g and 17h) are undecorated with slightly rounded or flattened lips. At least one of the vessels has a constricted neck and an out flaring rim. One small fragment (Figure 17i) appears to be part of an undecorated lug or handle. Many of the sherds have one or more rounded edges that are probably indicative of stream actions and other types of weathering.

Although the ceramic assemblage from 14RY5129 is quite small and fragmentary, it seems to closely resemble the plain, shell tempered vessels from the Fancy Creek site, 14RY8, at Tuttle Creek Lake (Schmits et al. 1987:99-125). Fancy Creek is believed to be a Smoky Hill component.

14RY5130 (Figure 49)

This is a small site in a wooded area near the bank of Sevenmile Creek. Cultural materials consist of six Florence chert flakes, each from a different shovel test. Two five meter grids around the positive locations failed to recover any additional artifacts. The shovel testing indicates that the cultural material is coming from loose, sandy alluvial deposits.

14RY5131 (Figure 50)

A large quantity of debitage, several flake tool fragments and one body sherd were recovered from a five meter grid of shovel tests at this site. The site covers a large wooded area just north of a major bend in Sevenmile Creek. Two other sites, 14RY5129 and 14RY5130, were recorded to the east and west of 14RY5131.

The body sherd recovered is a small interior fragment with both the inner and outer surfaces exfoliated. The sherd has a grit temper of crushed granite. While this temper may be indicative of some type of Woodland component, it is certainly not conclusive evidence. The remainder of the artifact assemblage is not particularly functionally or temporally diagnostic.

14RY5132 (Figure 51)

This site produced debitage and a flake tool fragment from 15 shovel tests on a five meter grid. The site area is on a brush and tree covered terrace 50 meters east of the left bank of Sevenmile Creek.

A 1-by-1 meter test unit near the center of the site recovered 32 flakes and a core fragment from the upper 20 cm of deposits. The cultural material came from a zone of sandy soil. The materials appear to end at the contact with a clay substratum (Figure 52).

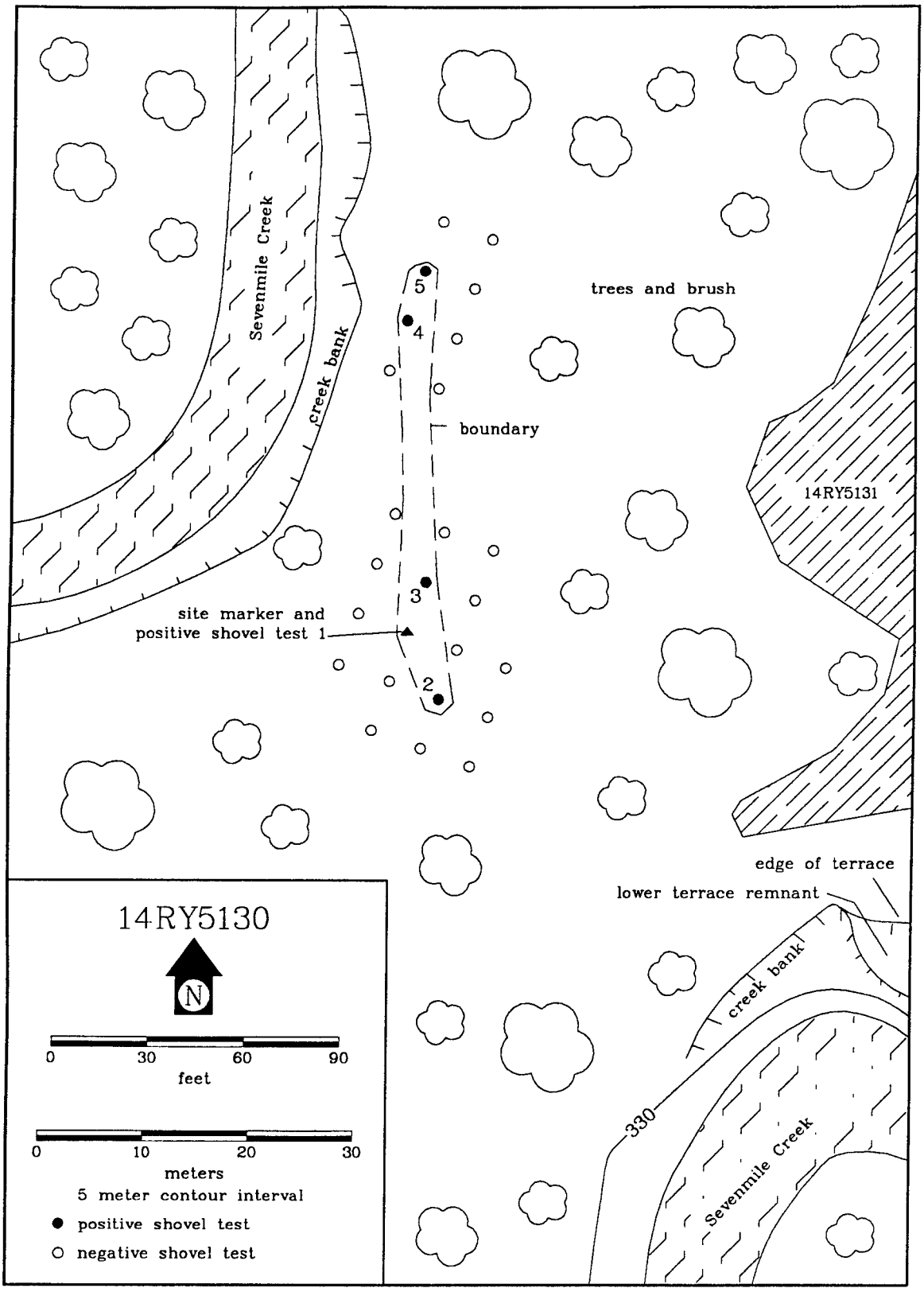

Figure 49. A map of 14RY5130.

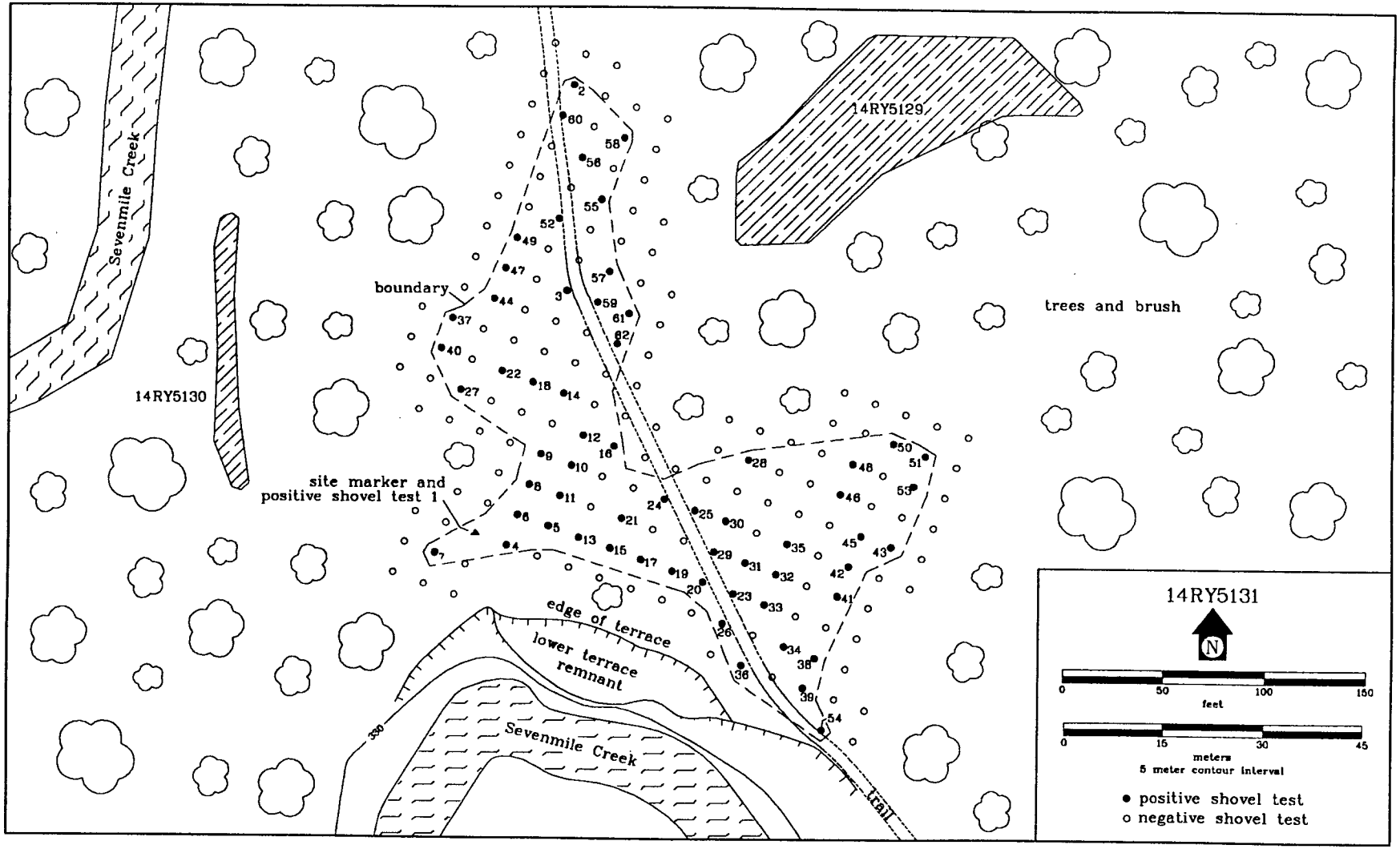

Figure 50. A map of 14RY5131.

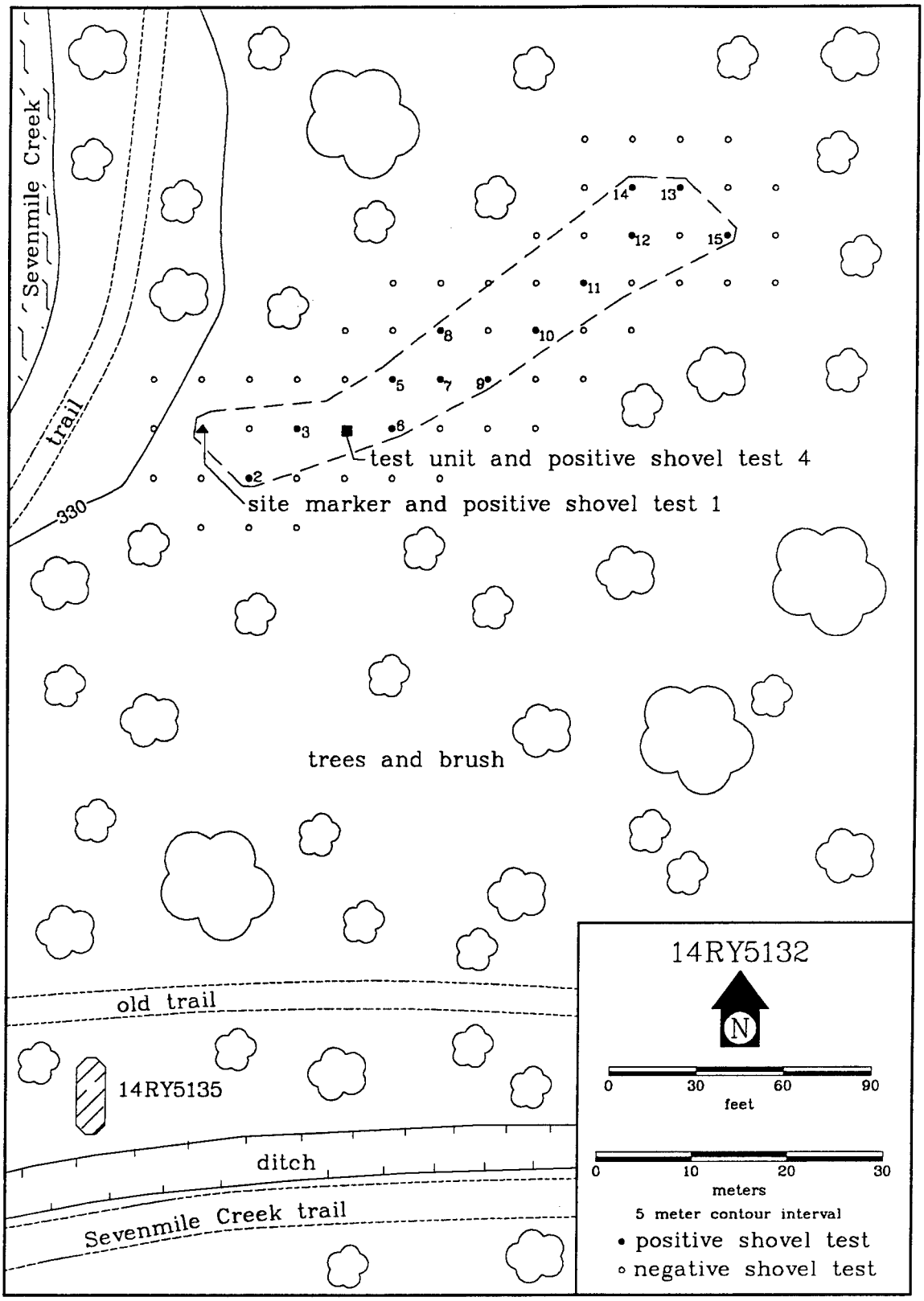

Figure 51. A map of 14RY5132.

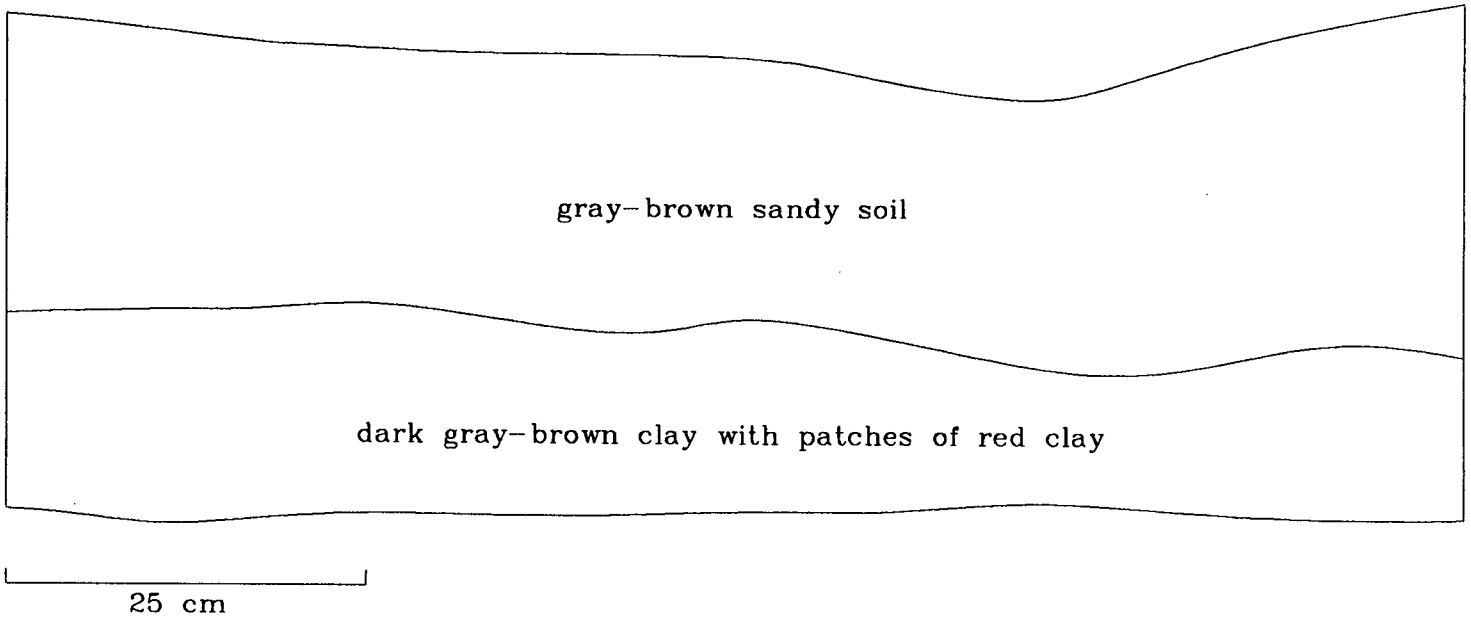

Figure 52. A drawing of the north wall profile from the test unit at 14RY5132.

14RY5133 (Figure 53)

This isolated find consists of an end scraper (Figure 54a) and a flake found in two separate shovel tests five meters apart. The location is in a wooded area north of the main east-west trail through the valley of Sevenmile Creek. Shovel testing on a five meter grid did not yield any additional artifacts.

14RY5134 (Figure 55)

This isolated find is a flake of Florence chert from a shovel test within a densely wooded portion of the Sevenmile Creek valley. A five meter grid of shovel tests around the location did not produce any further artifacts.

14RY5135 (Figure 56)

This isolated find consists of three flakes from two shovel tests five meters apart. The area is in dense woods and brush just off the north side of the main trail in the valley of Sevenmile Creek. A five meter grid of shovel tests around the locations did not produce any other artifacts.

14RY5136 (Figure 57)

This isolated find is a large biface of Florence chert (Figure 54b). The artifact was found in the rut of the main trail that crosses the valley of Sevenmile Creek. The biface is crudely flaked and still has cortex on several surfaces. It is probably a quarry blank that was intended to be reduced into a final tool or serve as a core for the production of small flake tools. A transect of five shovel tests at five meter intervals in the undisturbed terrain south of the trail did not yield any additional cultural material.

14RY5137 (Figure 58)

Debitage and stone tool fragments were recovered from 14 shovel tests on a five meter grid at this location. The site location is in a brushy area south of the main vehicle trail through the Sevenmile Creek valley.

A 1-by-1 meter test unit placed next to one of the positive shovel tests was excavated to 25 cm. Twenty-seven flakes, portions of three flake tools, a biface fragment, and a core fragment were recovered from the test unit. The possible presence of a thin historic component is also indicated by the recovery of a cut nail from the 10 to 20 cm level. All of the cultural material came from an upper zone of brown loam. A clay substratum that starts ca. 20 to 23 cm below the present ground surface does not appear to contain artifacts (Figure 59).

14RY5138 (Figure 60)

This isolated find consists of three flakes from two shovel tests five meters apart. The location is on a brush and tree covered segment of a terrace approximately 10 meters west of the right bank of Sevenmile Creek. A five meter grid of shovel tests around the two positive shovel tests did not recover any other artifacts.

14RY5139 (Figure 61)

This isolated find consists of two flakes of Florence chert from one shovel test and one flake of the same material from another shovel test five meters away. The flakes were

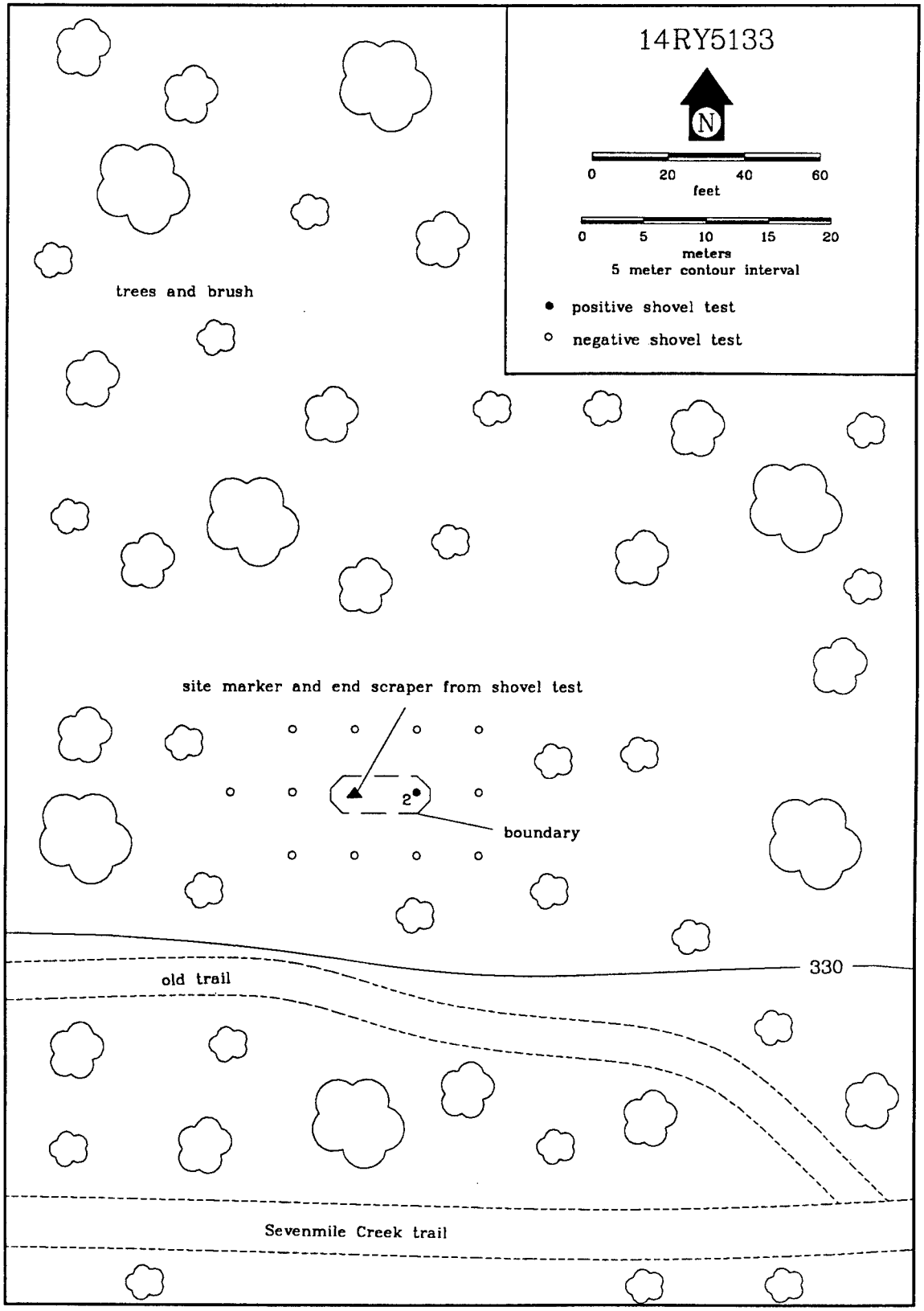

Figure 53. A map of 14RY5133.

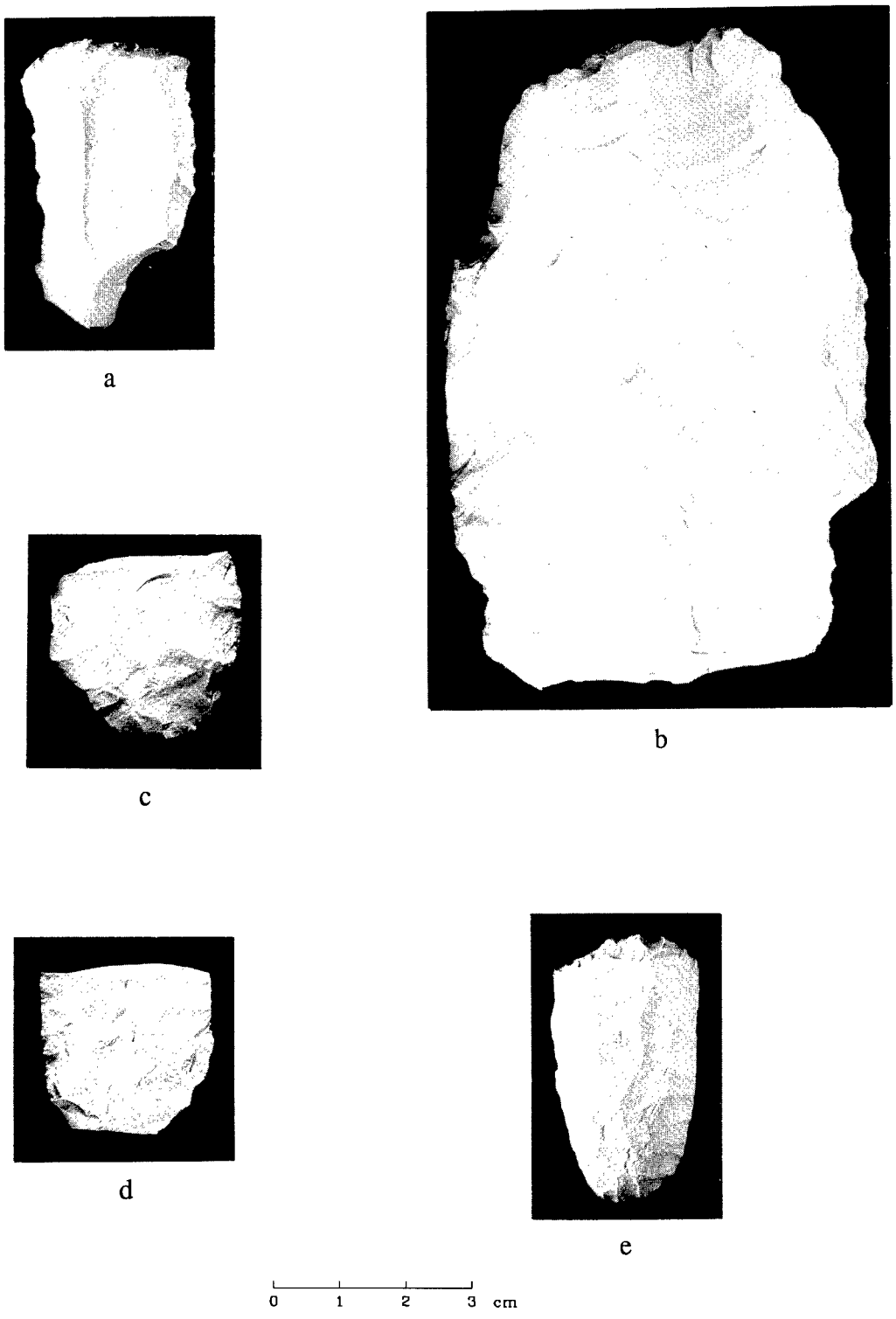

Figure 54. Artifacts from 14RY5133 (a), 14RY5136 (b) and 14RY5144 (c - e). Respective catalog numbers: 14RY5133-1, 14RY5136-1, 14RY5144-1, 14RY5144-2, and 14RY5144-3.

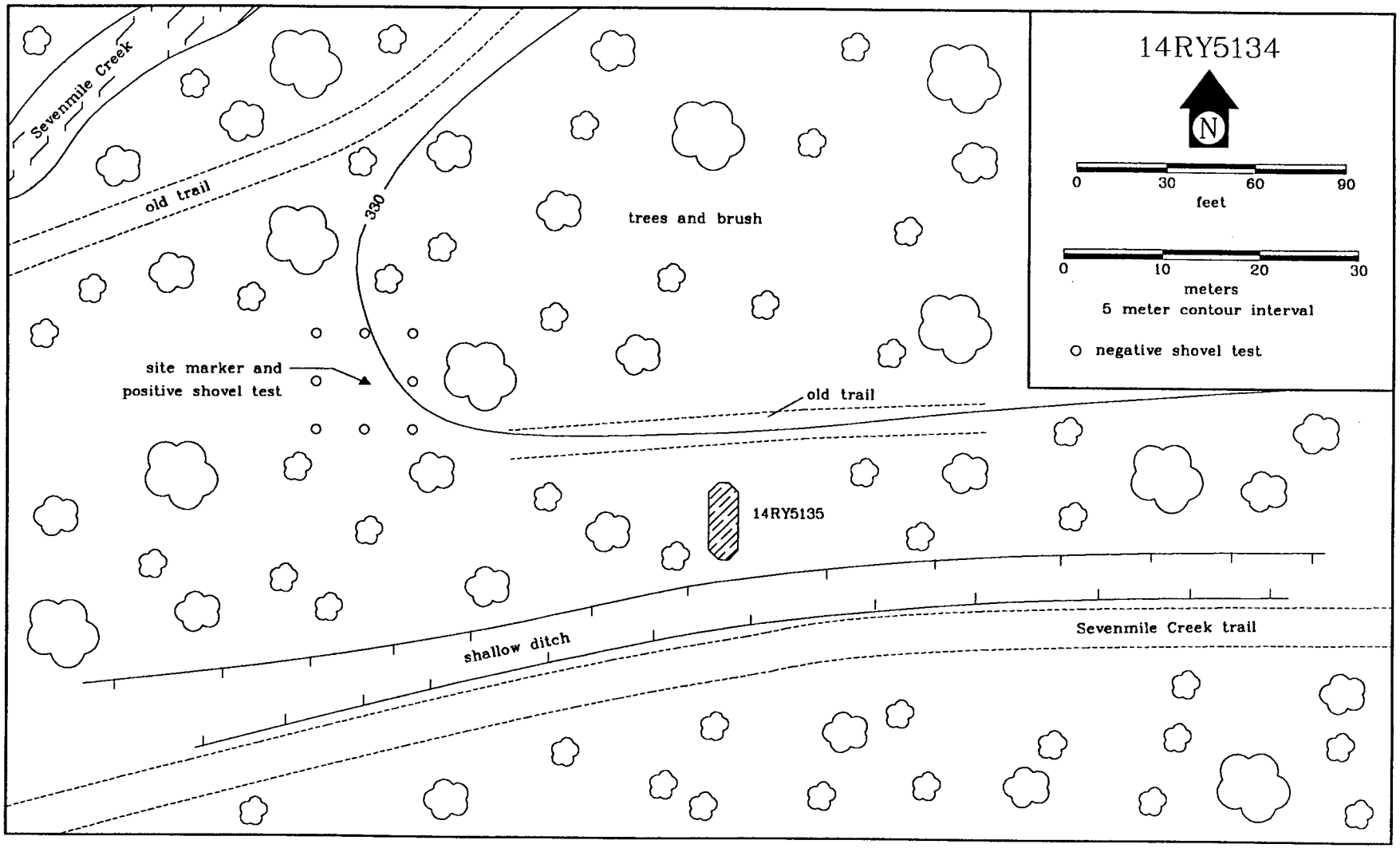

Figure 55. A map of 14RY5134.

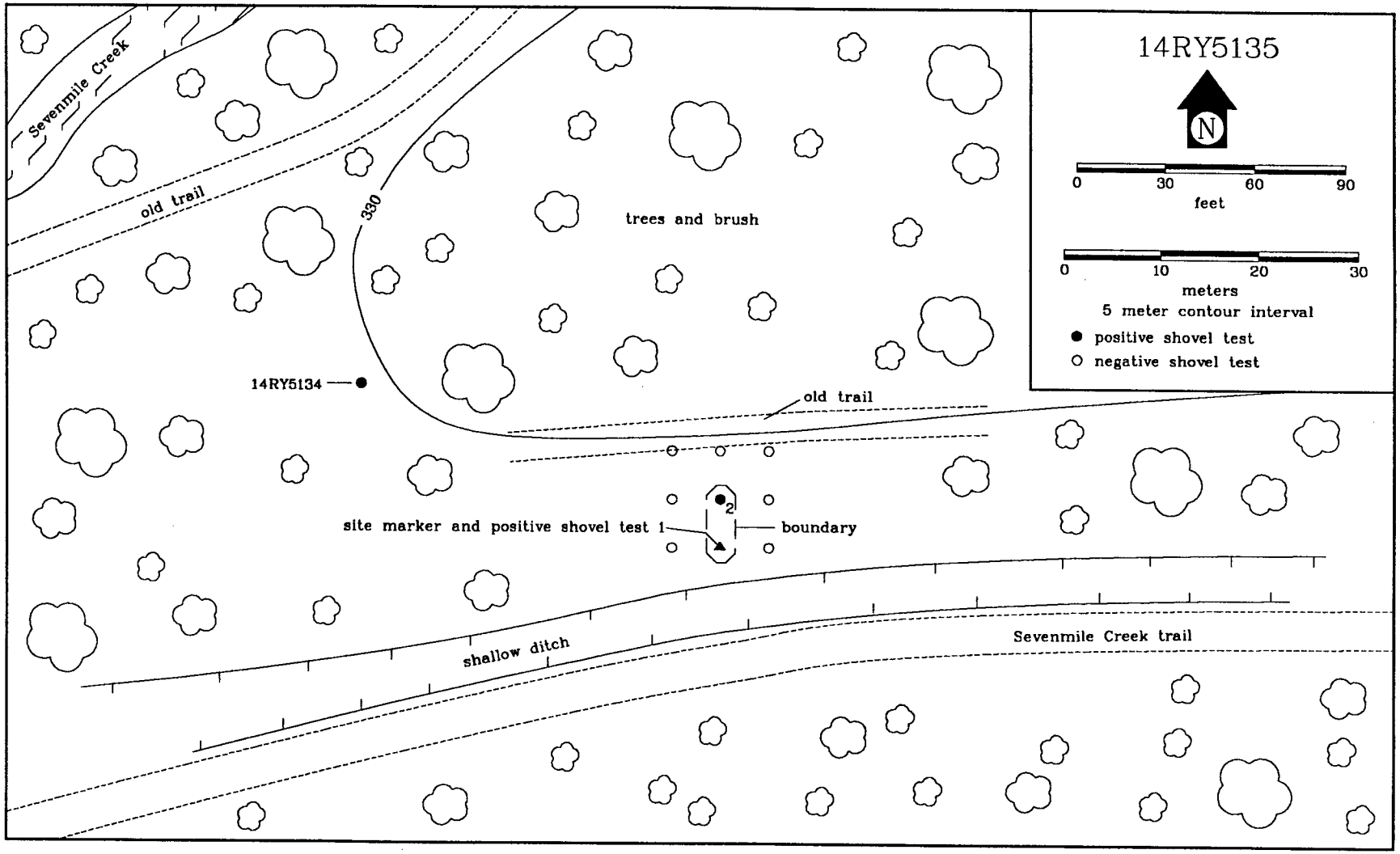

Figure 56. A map of 14RY5135.

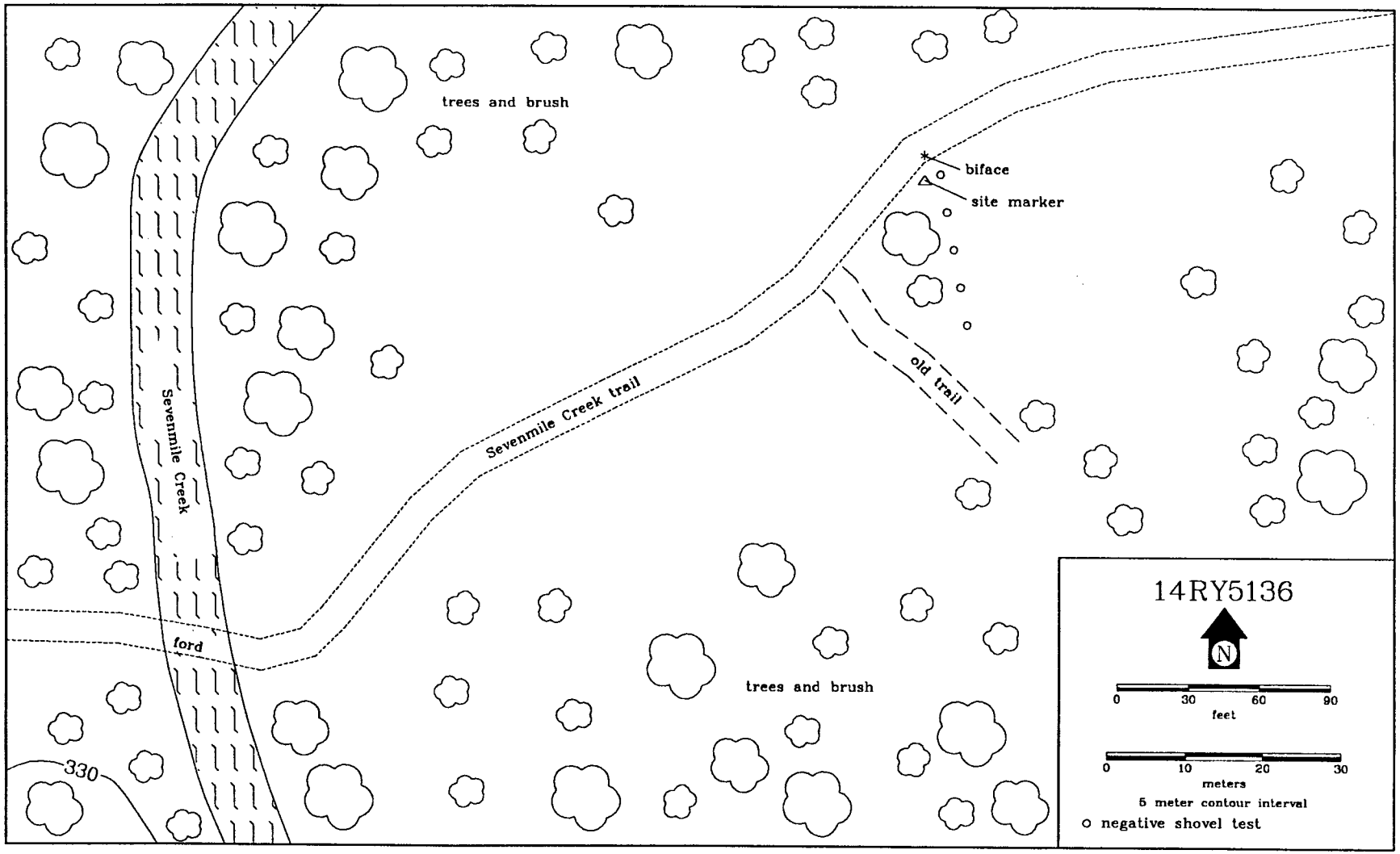

Figure 57. A map of 14RY5136.

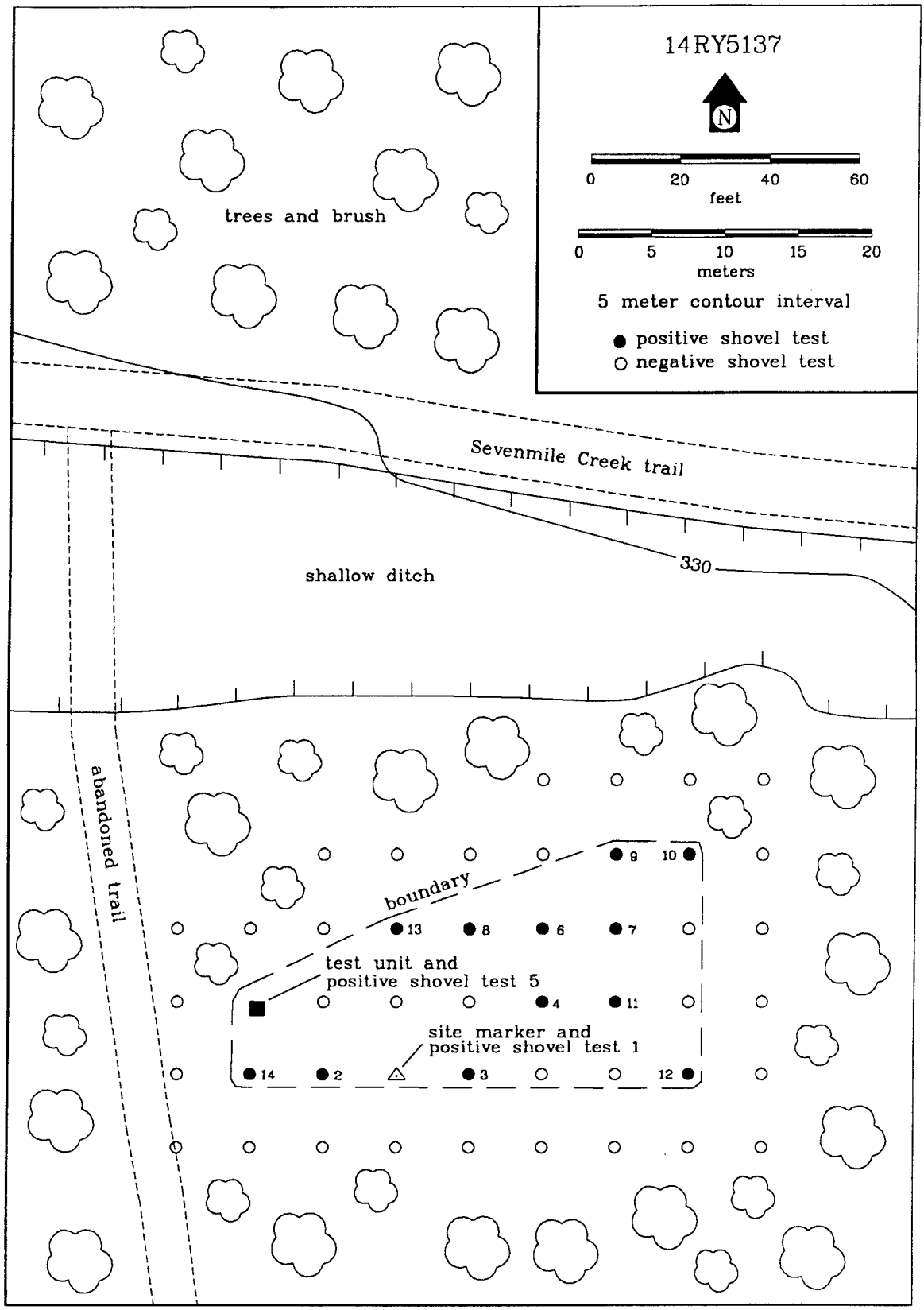

Figure 58. A map of 14RY5137.

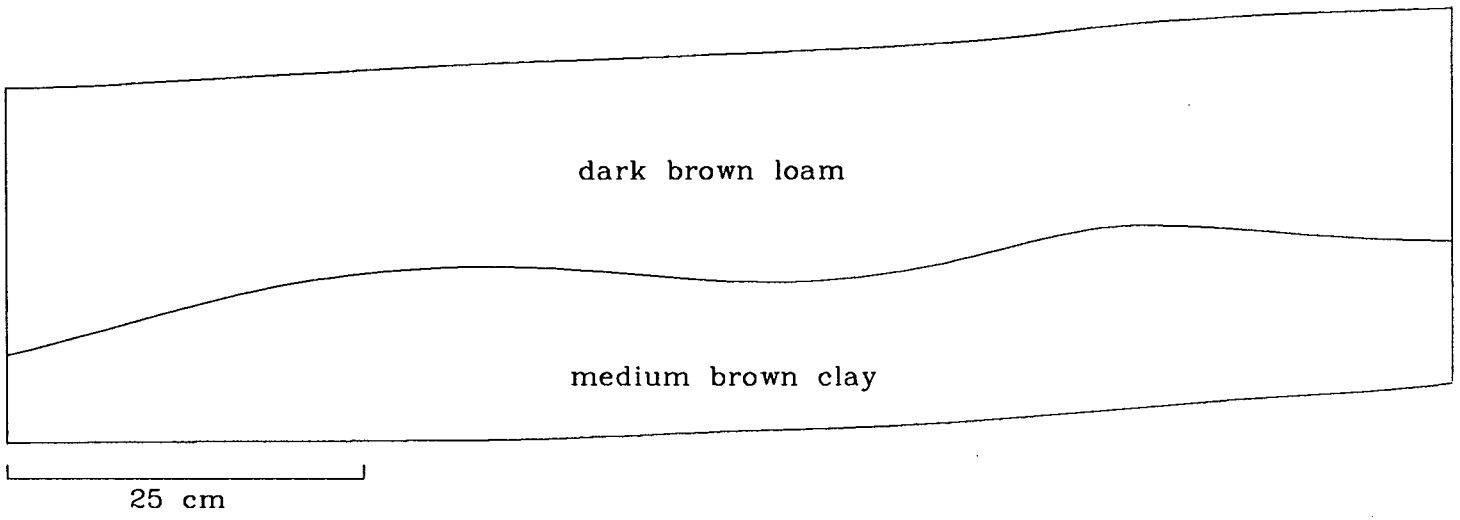

Figure 59. A drawing of the north wall profile from the test unit at 14RY5137.

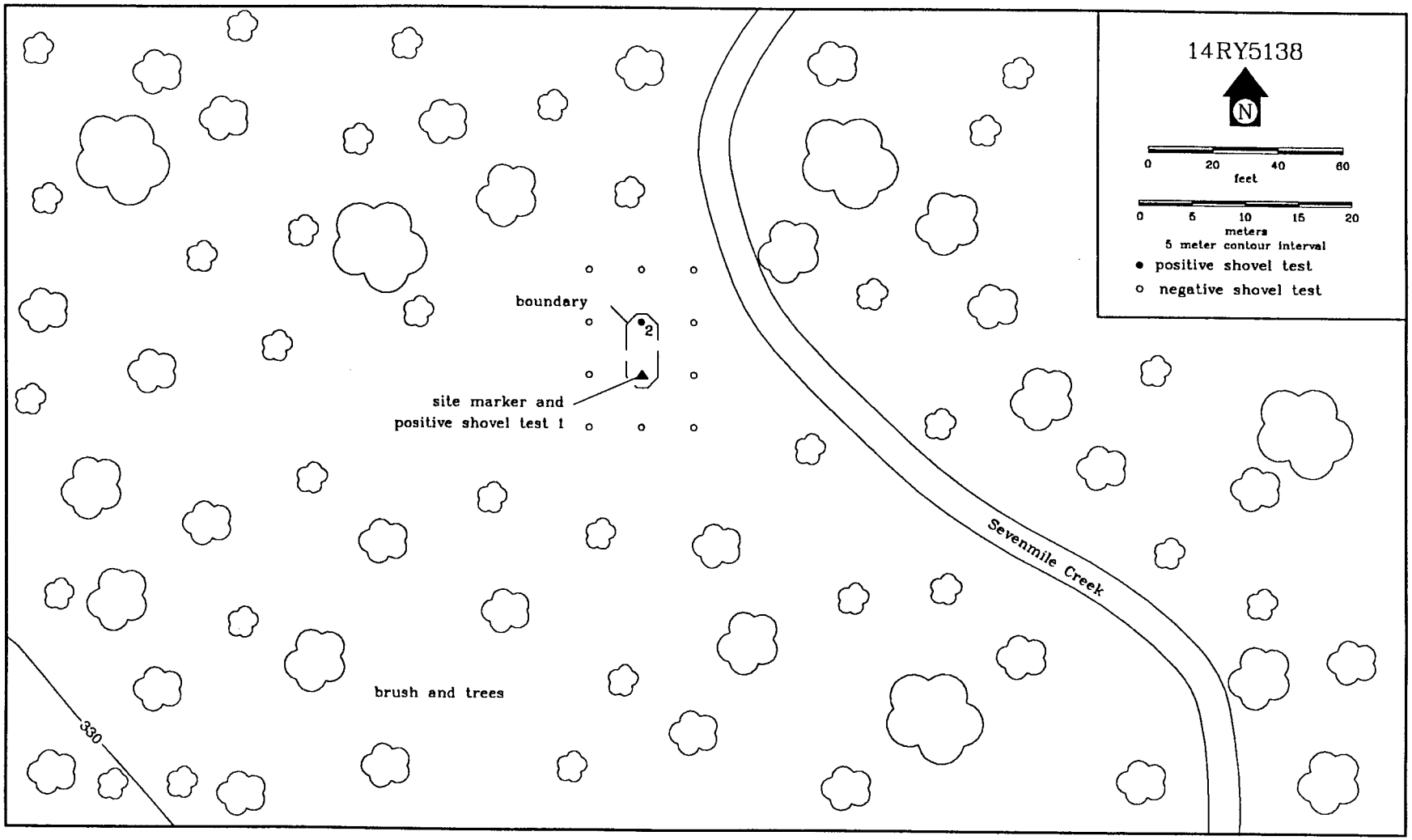

Figure 60. A map of 14RY5138.

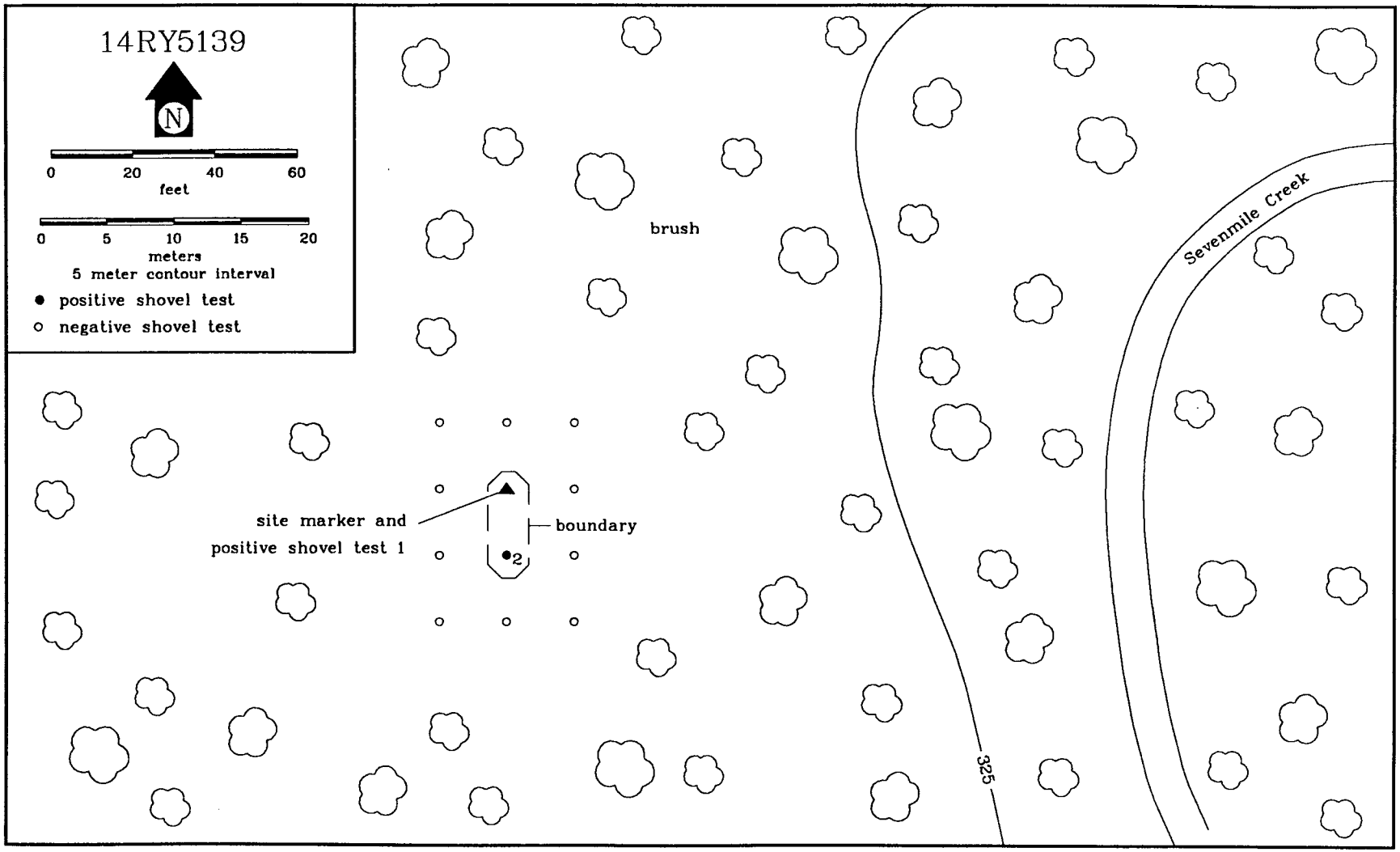

Figure 61. A map of 14RY5139.

found on a wooded terrace west of the left bank of Sevenmile Creek. A five meter grid of shovel tests around the positive locations did not produce any other additional artifacts.

14RY5140 (Figure 62)

This isolated find consists of two flakes of Florence chert found on the surface. The artifacts are on a grass covered ridge south of the valley of Sevenmile Creek. Both flakes are just off the edge of a vehicle trail. Examination of the trail ruts and the excavation of a transect of five shovel tests five meters apart did not reveal any other artifacts.

14RY5141 (Figure 63)

This isolated find consists of two flakes from two separate shovel tests 20 m apart. The flakes were found in a grassland between Sevenmile Creek and Dry Branch Creek. A five meter grid of shovel tests around both locations did not recover any other artifacts.

14RY5142 (Figure 64)

This isolated find is a flake of Florence chert from a shovel test. The location is in a grassland between Sevenmile Creek and Dry Branch Creek. A five meter grid of shovel tests around the location did not recover any additional artifacts.

14RY5143 (Figure 65)

This isolated find is a flake of Florence chert found in shovel testing. This location is the fourth of four such locations found on a low hilltop on the divide between Sevenmile Creek and Dry Branch Creek (the others being 14RY5140, 14RY5141 and 14RY5142). The flake was found in a grassland north of an east-west vehicle trail. A five meter grid of shovel tests around the location did not yield any other artifacts.

14RY5144 (Figure 66)

This site is an extensive scatter of debitage and chipped stone tools in and around the edges of a food plot. The site is on a high terrace that forms the south valley edge of Sevenmile Creek.

Site boundaries were established on the basis of surface artifacts. Approximately 100 flakes, most of Florence chert, were observed on the site. Two biface fragments (Figure 54c and 54d) and an end scraper (Figure 54e) were collected along the eastern side of 14RY5144. Besides flakes, several cores and core fragments were observed within the food plot and the vehicle trail that crosses the site area.

A 1-by-1 meter test unit was excavated near the southern end of 14RY5144. Ten flakes were recovered from the upper 10 cm. Below this is a thick, red clay substratum that does not appear to contain artifacts (Figure 67).

The results from the test unit and an examination of the site's surface indicate that the eastern and southern edges of 14RY5144 are deflated. North and west of the food plot, however, soil development appears to be much thicker. These areas of the site could contain buried and reasonably intact cultural deposits.

Although it is impossible to say for sure, it seems that 14RY5144 may be one of three locations that Cletus J. Wegandt described along Sevenmile Creek. That area, later designated 14RY1629 by O'Brien (1989), is discussed as "a large village . . ." that . . .

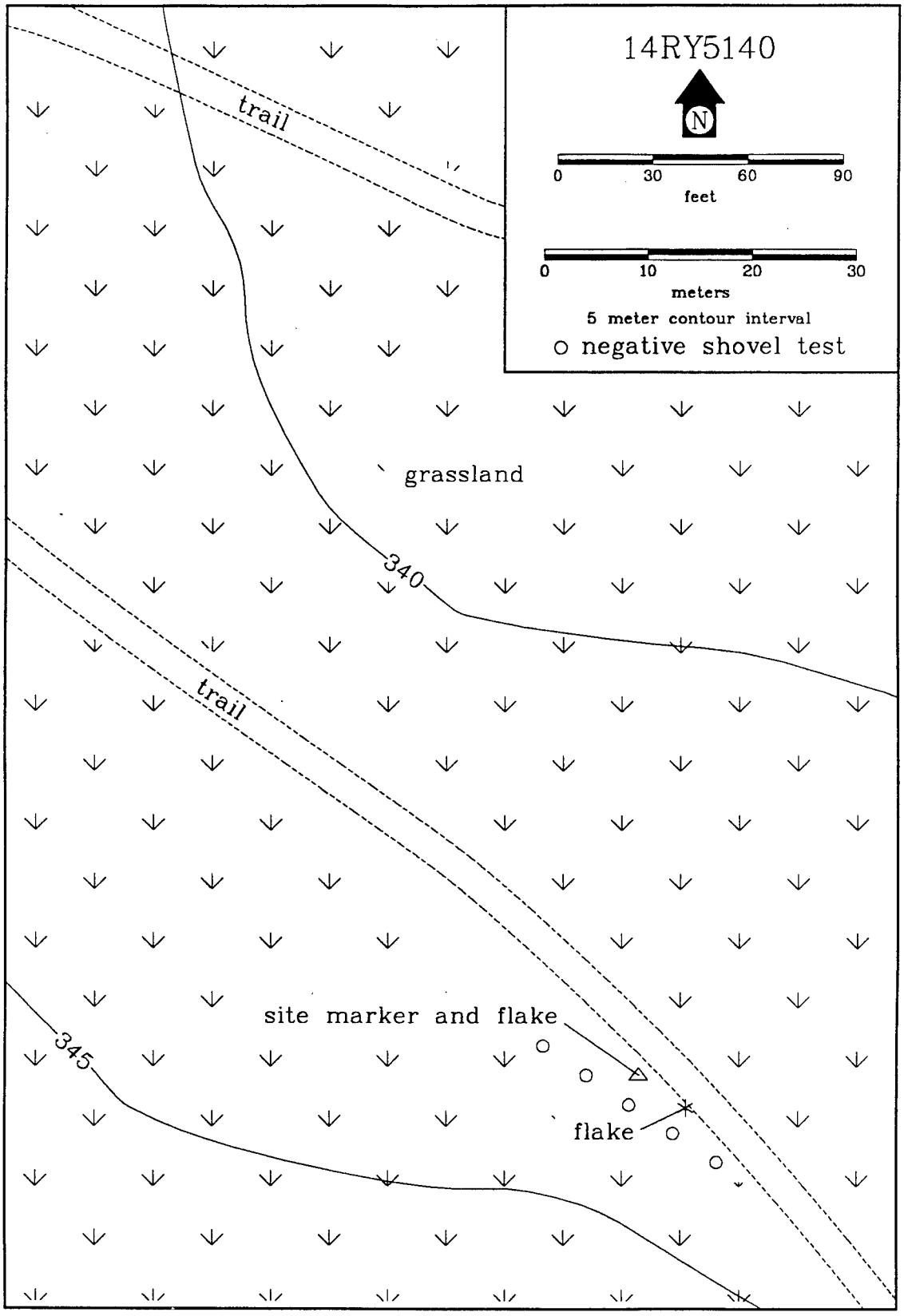

Figure 62. A map of 14RY5140.

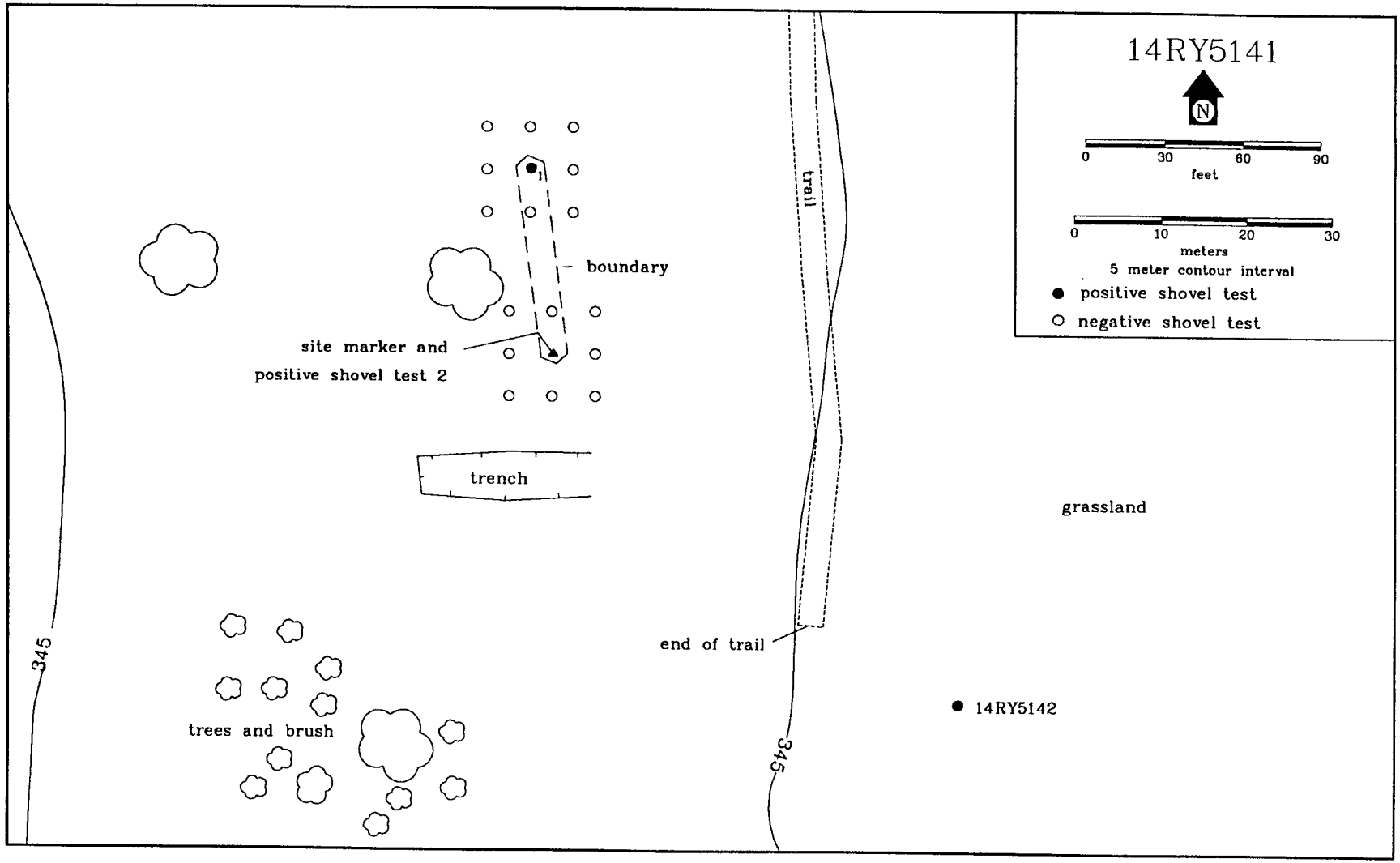

Figure 63. A map of 14RY5141.

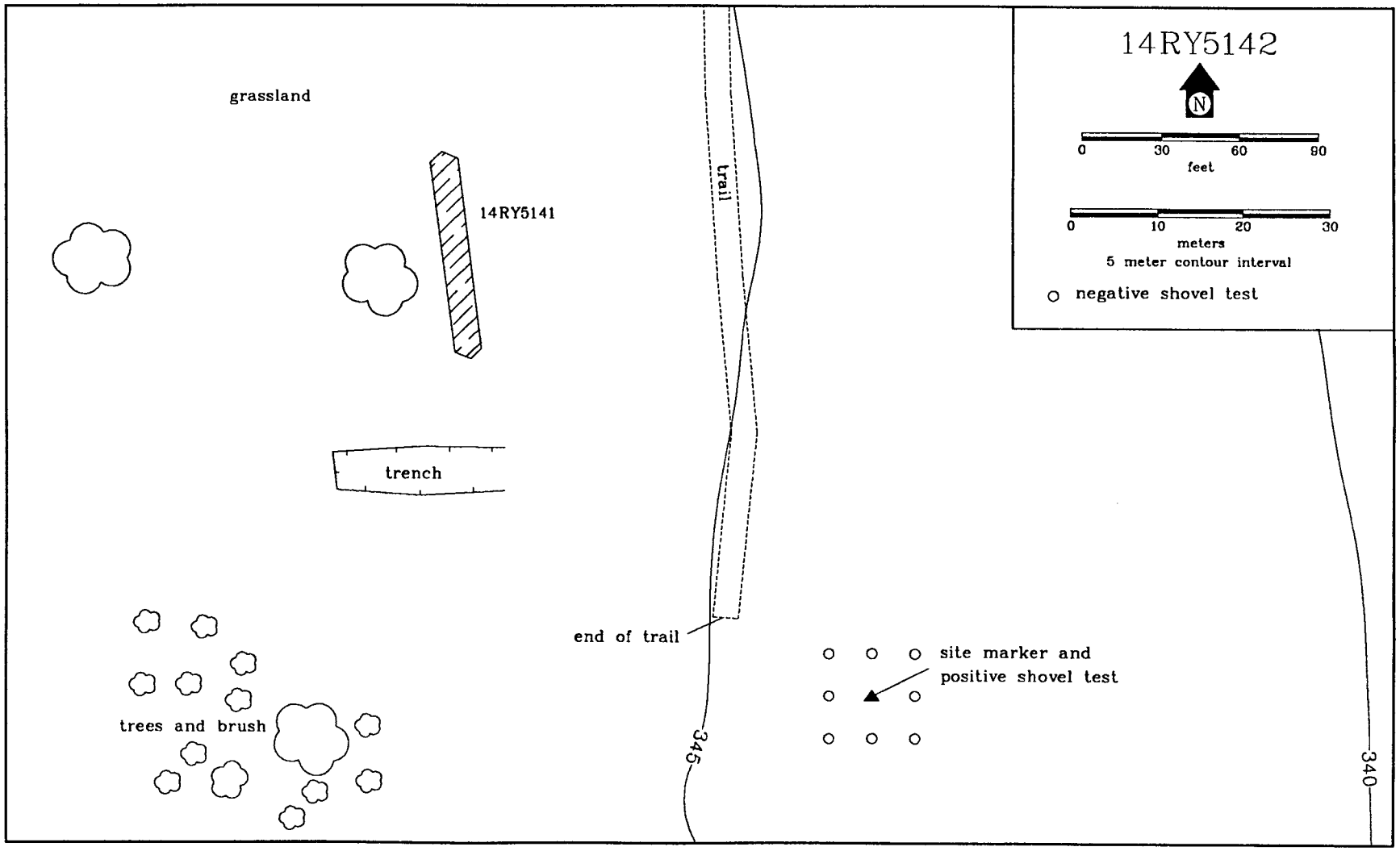

Figure 64. A map of 14RY5142.

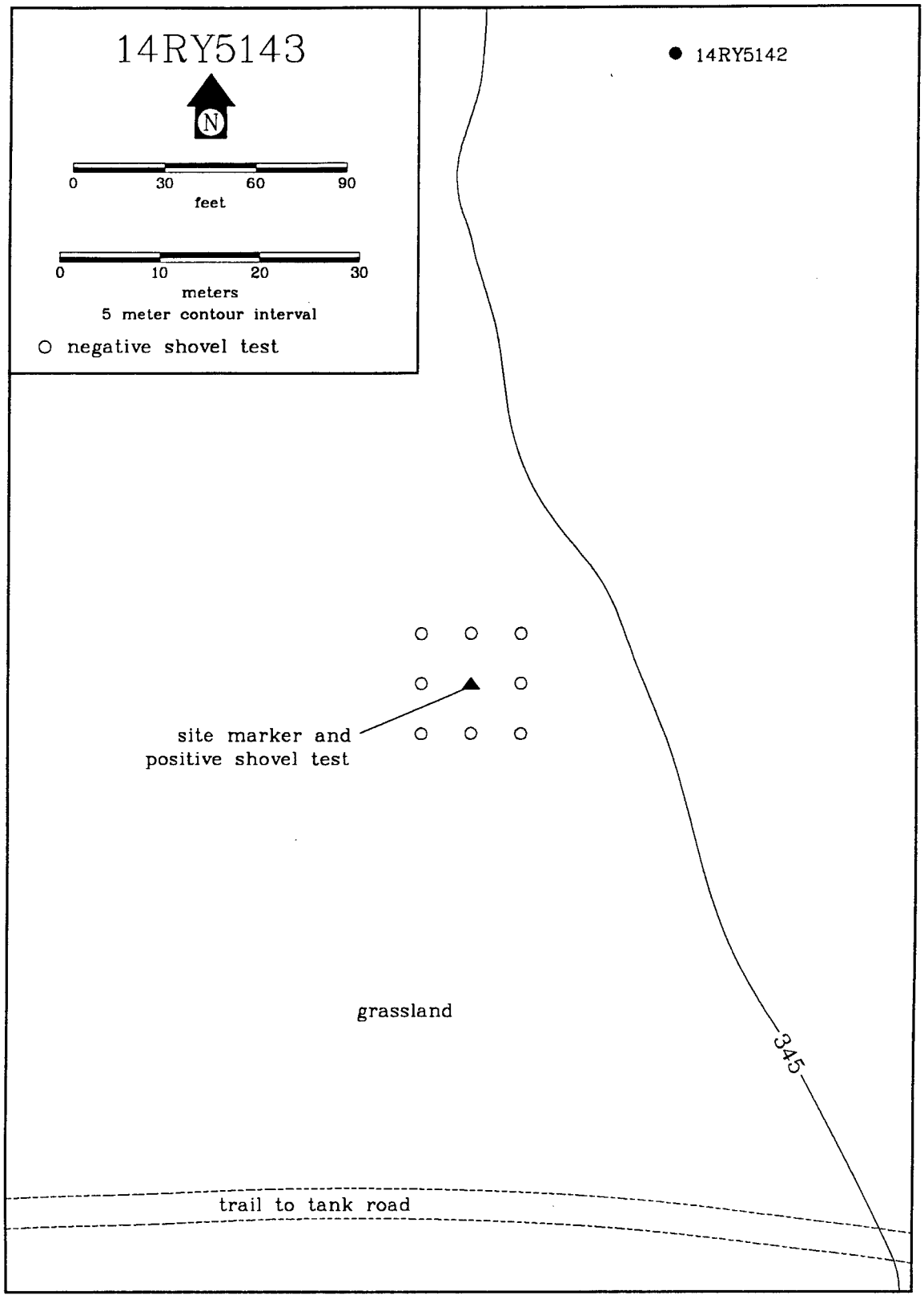

Figure 65. A map of 14RY5143.

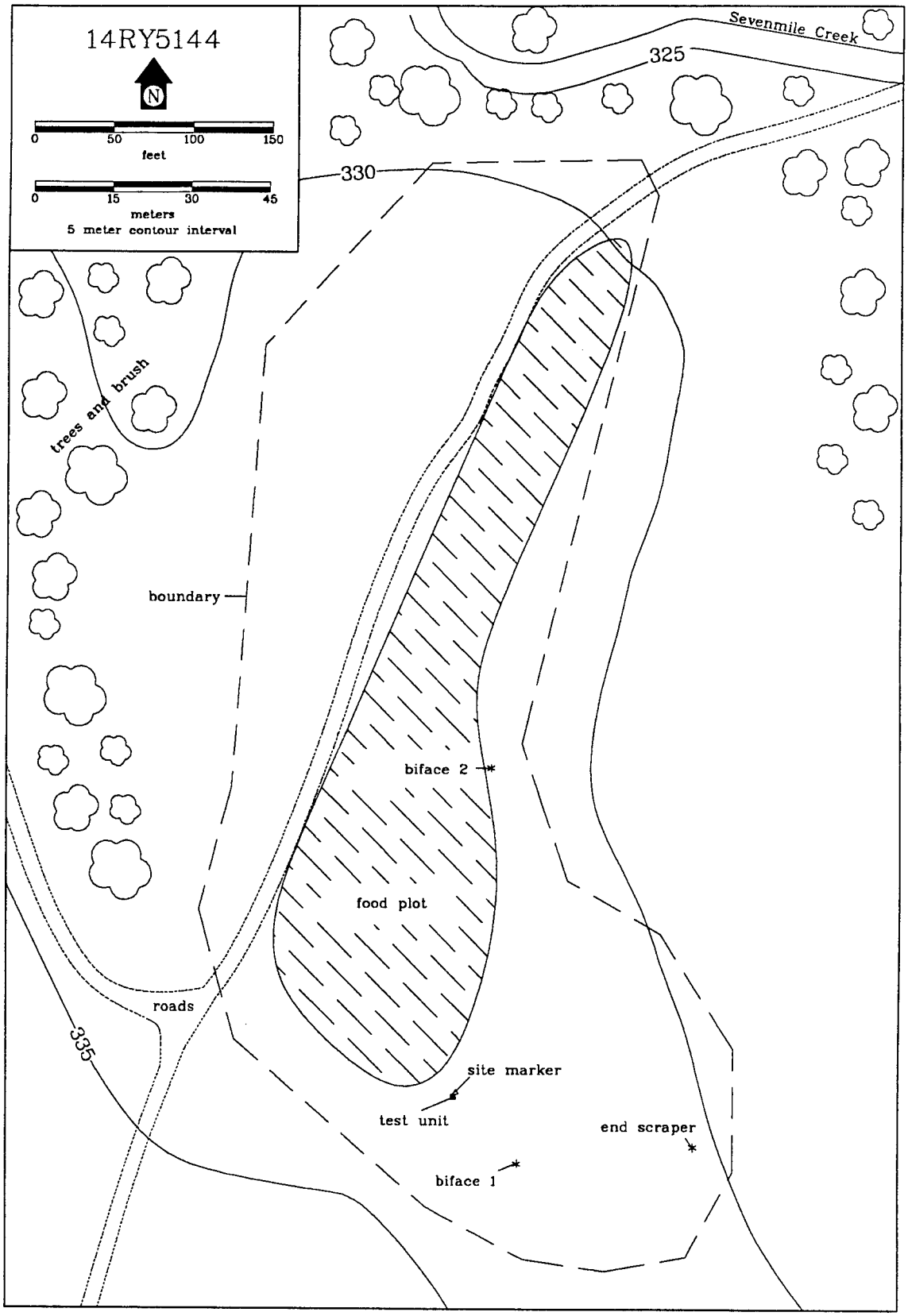

Figure 66. A map of 14RY5144.

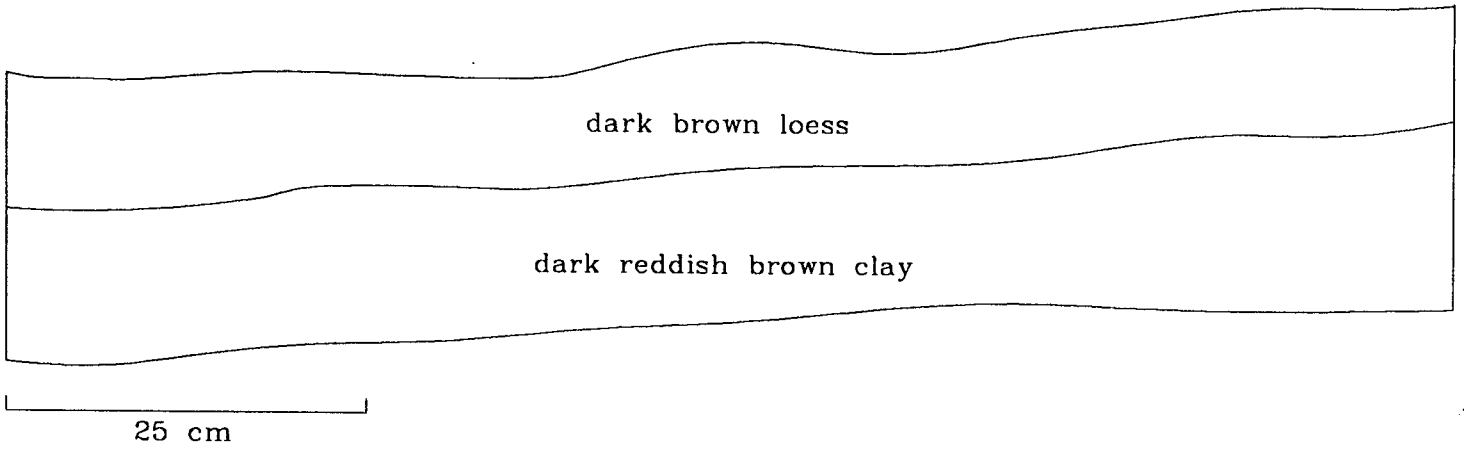

Figure 67. A drawing of the north wall profile from the test unit at 14RY5144.

"has been hunted so heavily that it is depleted apparently of its relics" (O'Brien 1989: Map 10).

14RY5145 (Figure 68)

This isolated find consists of a flake from a shovel test near the left bank of Sevenmile Creek. The location is on the edge of the first terrace above the flood plain. This is a heavily wooded area, with grassland beginning approximately 10 m to the east. A five meter grid of shovel tests around the original location did not produce any other artifacts.

14RY5146 (Figure 69)

This isolated find is a flake of Florence chert found in a shovel test. The location is in a grassland that forms the divide between Sevenmile Creek and Dry Branch Creek. A five meter grid of shovel tests around the location did not recover any other artifacts.

14RY5147 (Figure 70)

This isolated find is a large flake of Florence chert found along the west side of a vehicle trail. The location is within a grassland that forms the divide between Sevenmile Creek and Dry Fork Creek. A transect of five meter spaced shovel tests parallel to the trail did not recover any additional artifacts and no other material was observed in the vehicle ruts.

14RY5148 (Figure 71)

This isolated find is a Florence chert flake found in shovel testing. The location is on a high grassland terrace overlooking the valley of Sevenmile Creek to the east. A five meter grid of shovel tests around the flake did not yield any other cultural material.

14RY5149 (Figure 72)

Approximately 15 to 20 flakes of Florence chert were observed in a vehicle trail that passes through this site. This location is near the south end of a grassland terrace that forms the divide between Sevenmile Creek and Dry Branch Creek. The site area is approximately 150 meters north of previously recorded site 14RY116 (McDowell and McGowan 1993) but nothing was observed at that locality in 1995.

Two transects of shovel tests were excavated on either side of the trail that passes through the site area. While all but one of these contained no cultural material, one flake was recovered from a shovel test near the western end of the transect on the south side of the trail. A five meter grid of additional shovel tests around this location produced three more flakes from two shovel tests.

In order to gather additional information about the subsurface cultural material from the western portion of 14RY5149, a 1-by-1 meter test unit was excavated within the area of the three positive shovel tests. The test unit was excavated to a depth of 20 cm, approximately 6 to 8 cm into a red clay substratum (Figure 73). Thirty-six flakes were recovered from the test unit. Two-thirds of these were from the upper 10 cm of excavation. The remaining 12 flakes were recovered immediately below this, suggesting that the cultural material ends a few centimeters above the contact with the clay substratum.

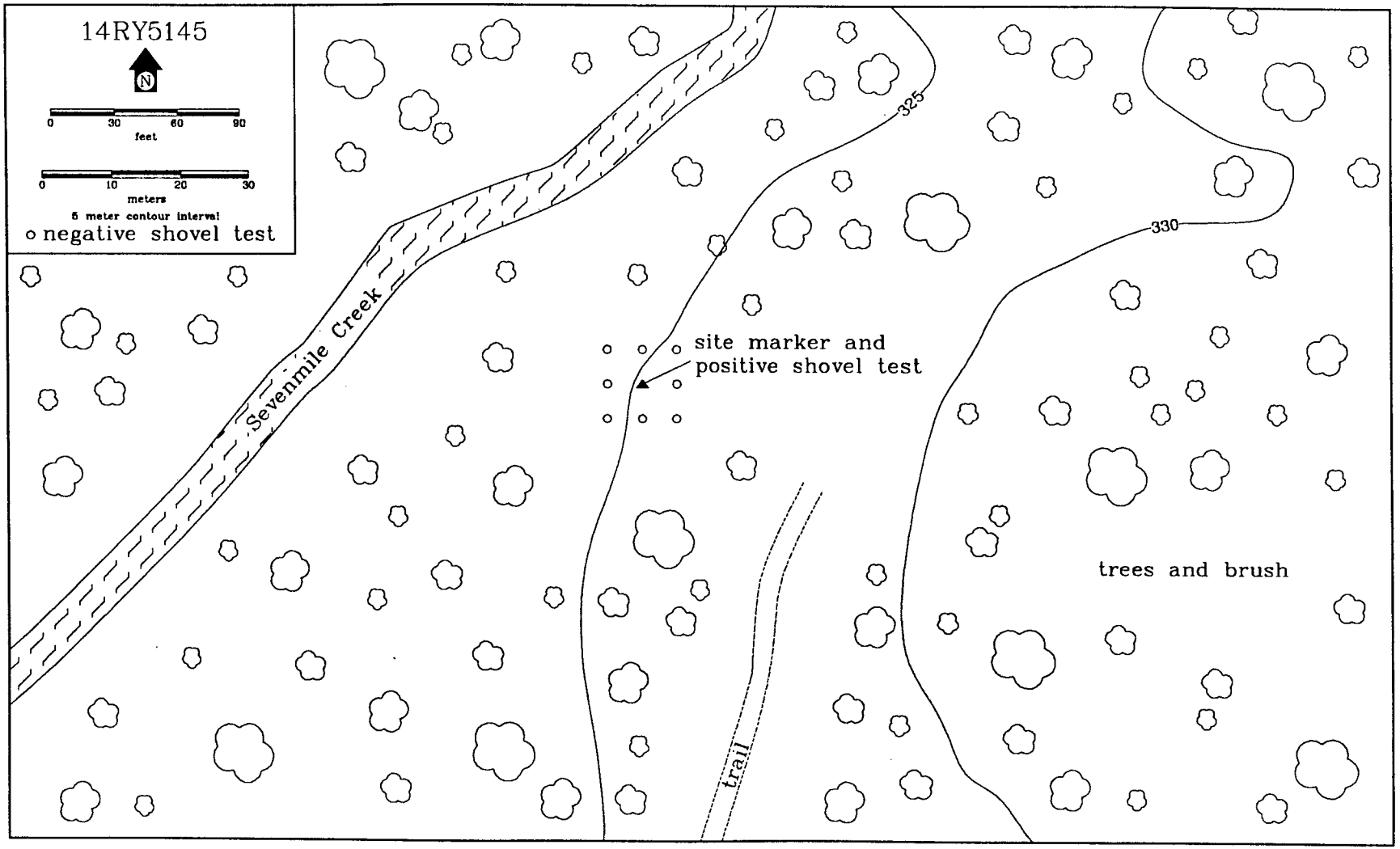

Figure 68. A map of 14RY5145.

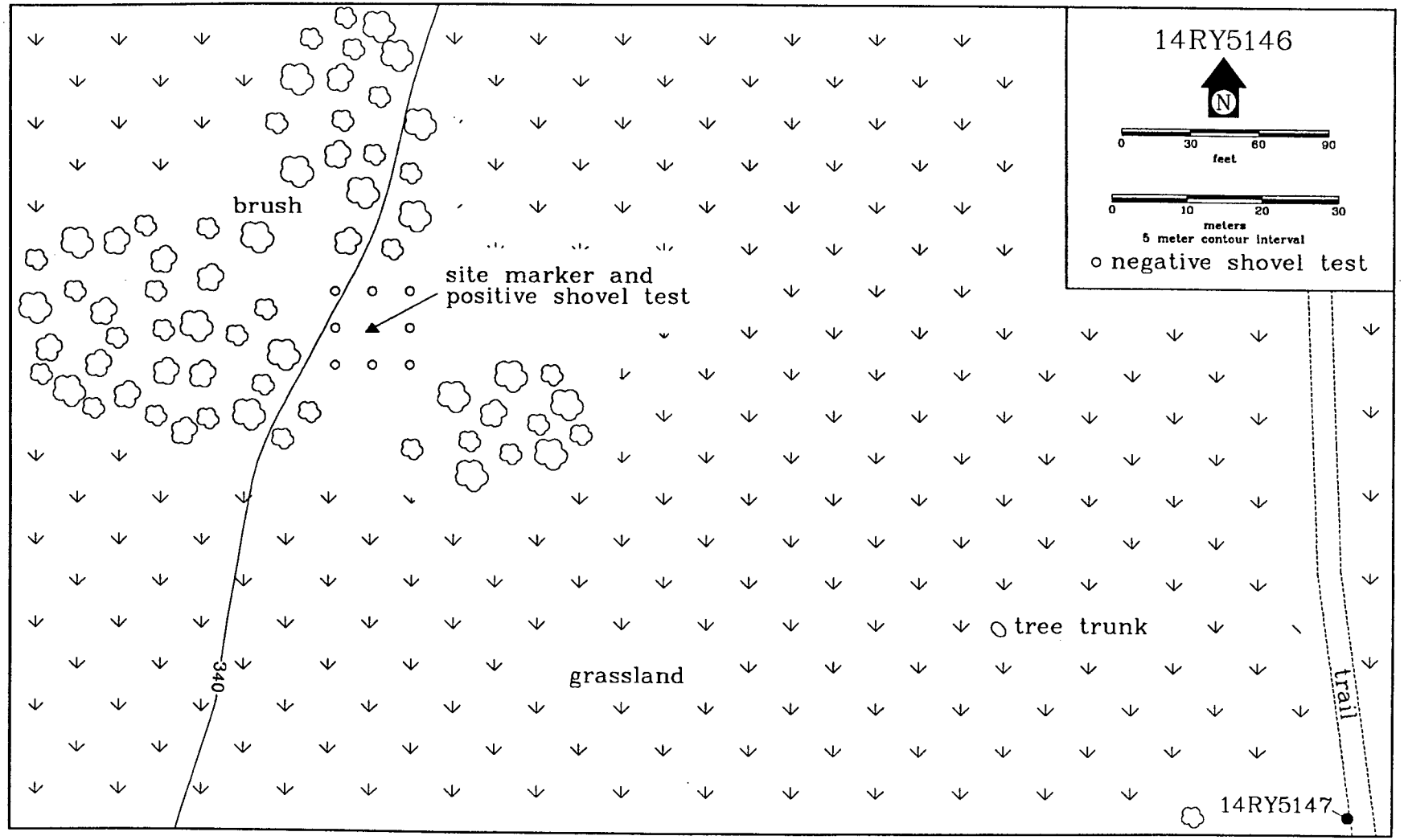

Figure 69. A map of 14RY5146.

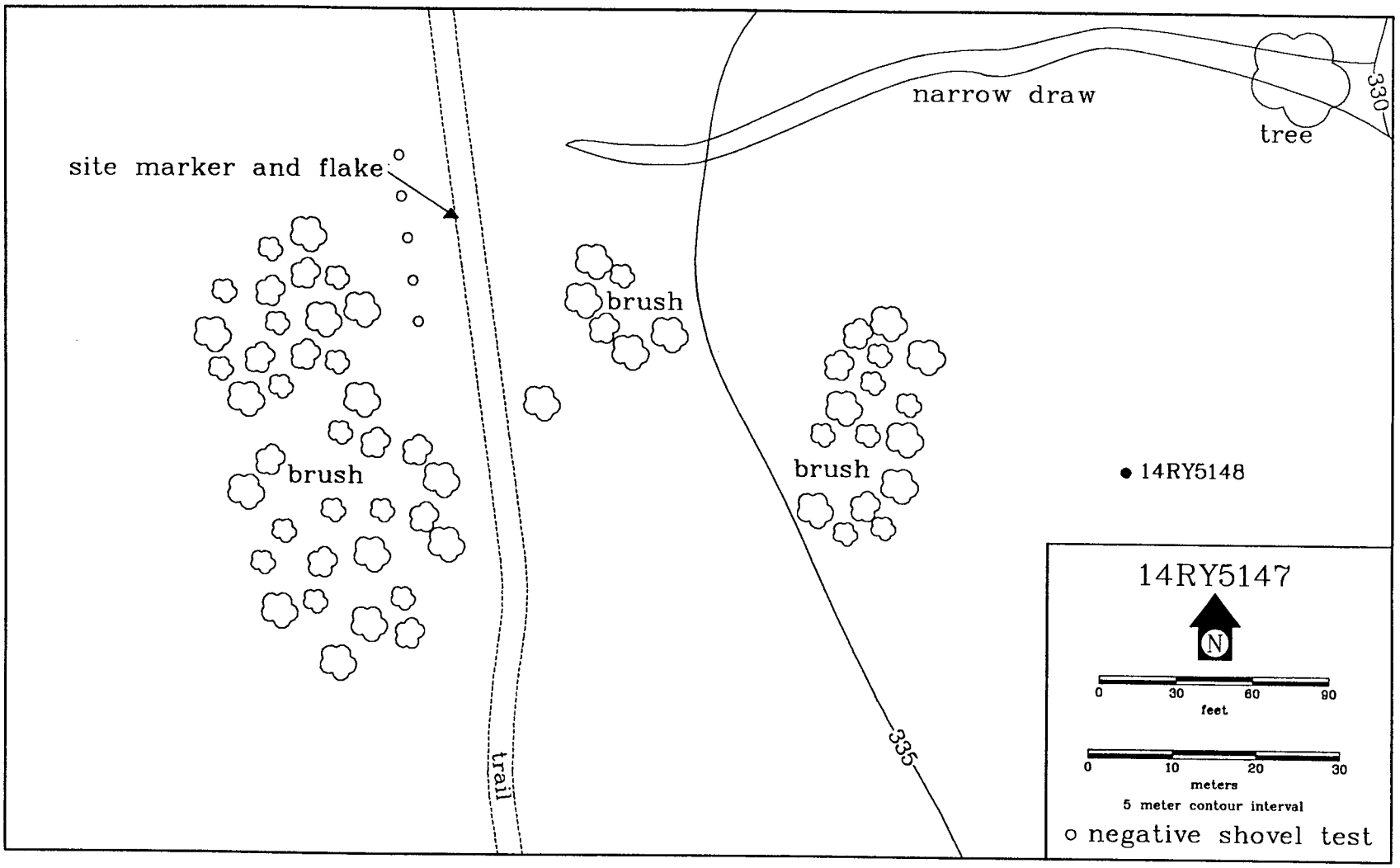

Figure 70. A map of 14RY5147.

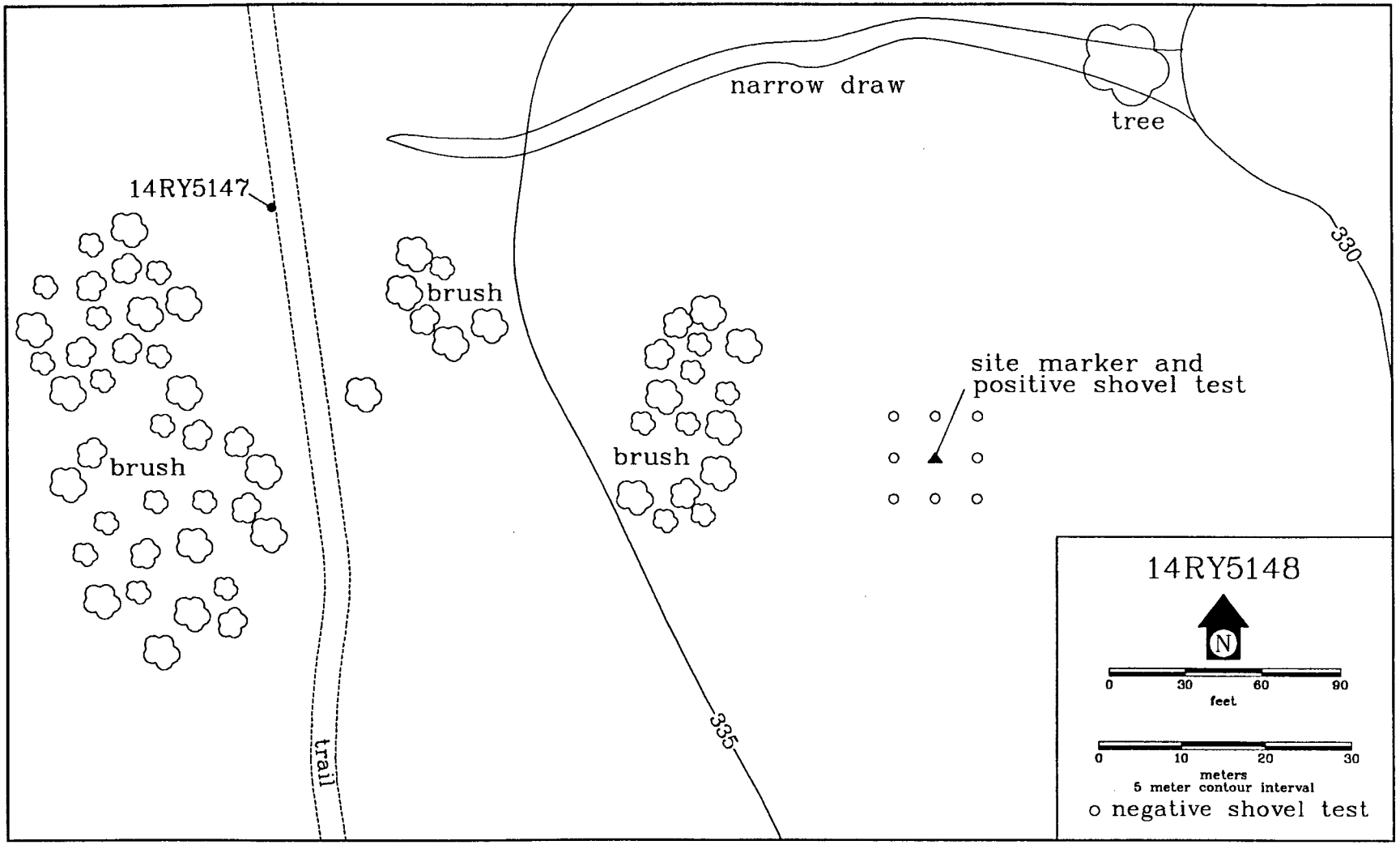

Figure 71. A map of 14RY5148.

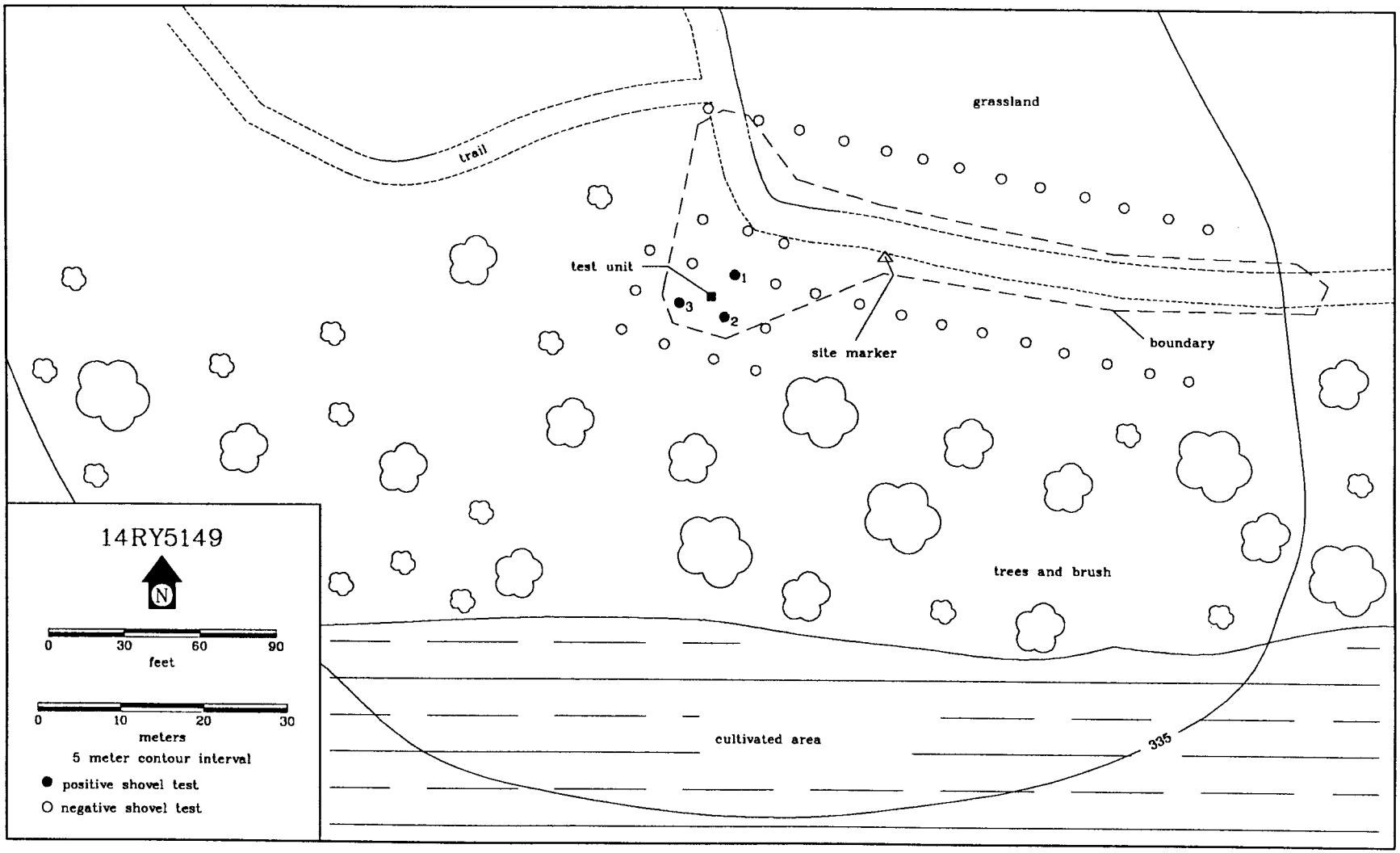

Figure 72. A map of 14RY5149.

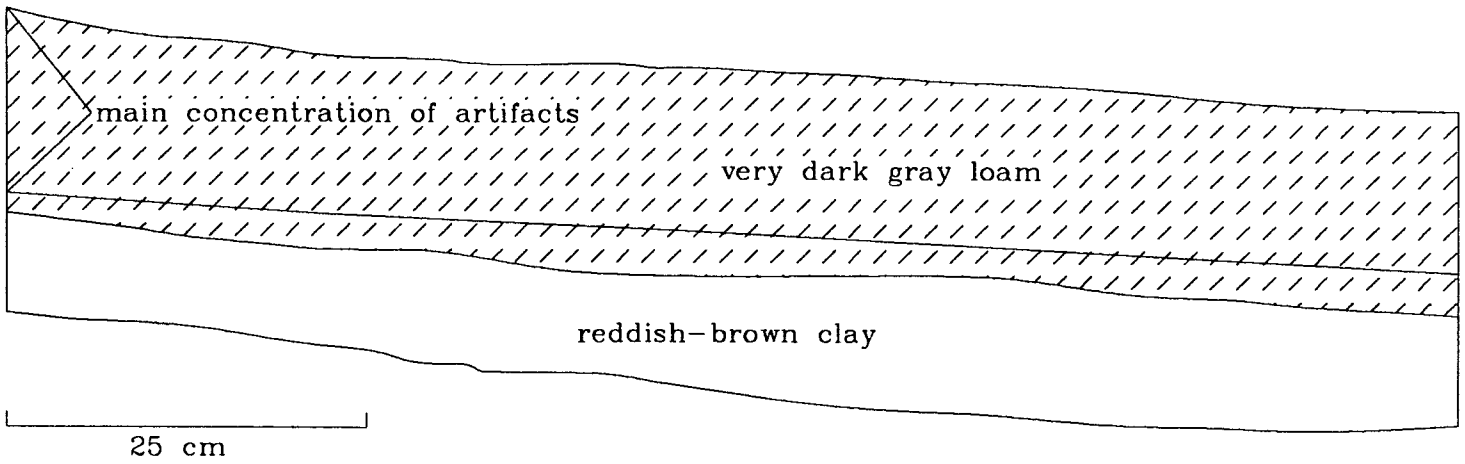

Figure 73. A drawing of the north wall profile from the test unit at 14RY5149.

14RY5150 (Figure 74)

This isolated find consists of two flakes found in a north-south fire break along the eastern boundary of Fort Riley. No other artifacts were observed in the plowed field surrounding the flakes.

14RY5151 (Figure 75)

This isolated find consists of a small, purple tinted milk bottle and part of a blue enamel pan. The artifacts were found next to each other near the bottom of a densely wooded draw. A five meter grid of shovel tests around the artifacts did not produce any further cultural material.

The milk bottle is lettered "1/3 QT" below the neck and has an "B-C" maker's mark on its base. The maker's mark may be from the Bartlett-Collins Glass Company of Sapulpa, Oklahoma. The company is known of have manufactured bottles from 1914 through 1929 (Toulouse 1971:75-76).

14RY5152 (Figure 76)

At this location, approximately 10 flakes and a flake tool were observed in an east-west vehicle trail. The materials are along the western edge of a bluff top that overlooks the valley of Sevenmile Creek and a tributary draw that enters it from the north.

A five meter grid of shovel tests parallel to and on either side of the vehicle trail yielded flakes from seven shovel tests. A 1-by-1 meter test unit was positioned near the apparent center of the artifact distribution. The test unit, excavated to 30 cm, produced 29 flakes. These artifacts came from an upper disturbed deposit and approximately 10 cm of undisturbed matrix below it. No flakes were recovered from below the contact with a brown clay (Figure 77).

14RY5153 (Figure 78)

This site appears to be a quarry and workshop area within a bedrock deposit of Florence chert. The site area is near the south end on a rocky and sparsely vegetated hill top that forms the divide between Sevenmile Creek and an unnamed tributary that flows in from the north.

Approximately 40 flakes were observed on the surface within the area shown on the site map. Most of these artifacts appear to be primary and secondary decortication flakes. A transect of shovel tests through the site area produced an additional 10 flakes from three of the seven shovel tests.

Because of the rocky nature of the site area, the shovel tests were very shallow. It seems likely that much more cultural material is present on this site than is indicated by the initial surface inspection and the shovel testing. The ground surface is littered with chert, however, and care will have to be taken during any future studies at 14RY5153 in order to distinguish between cultural and noncultural material. An exposure of the same chert seam in the bladed road west of the site area indicates there could be a considerable quantity of high grade Florence chert along the upper edges of the hill slope.

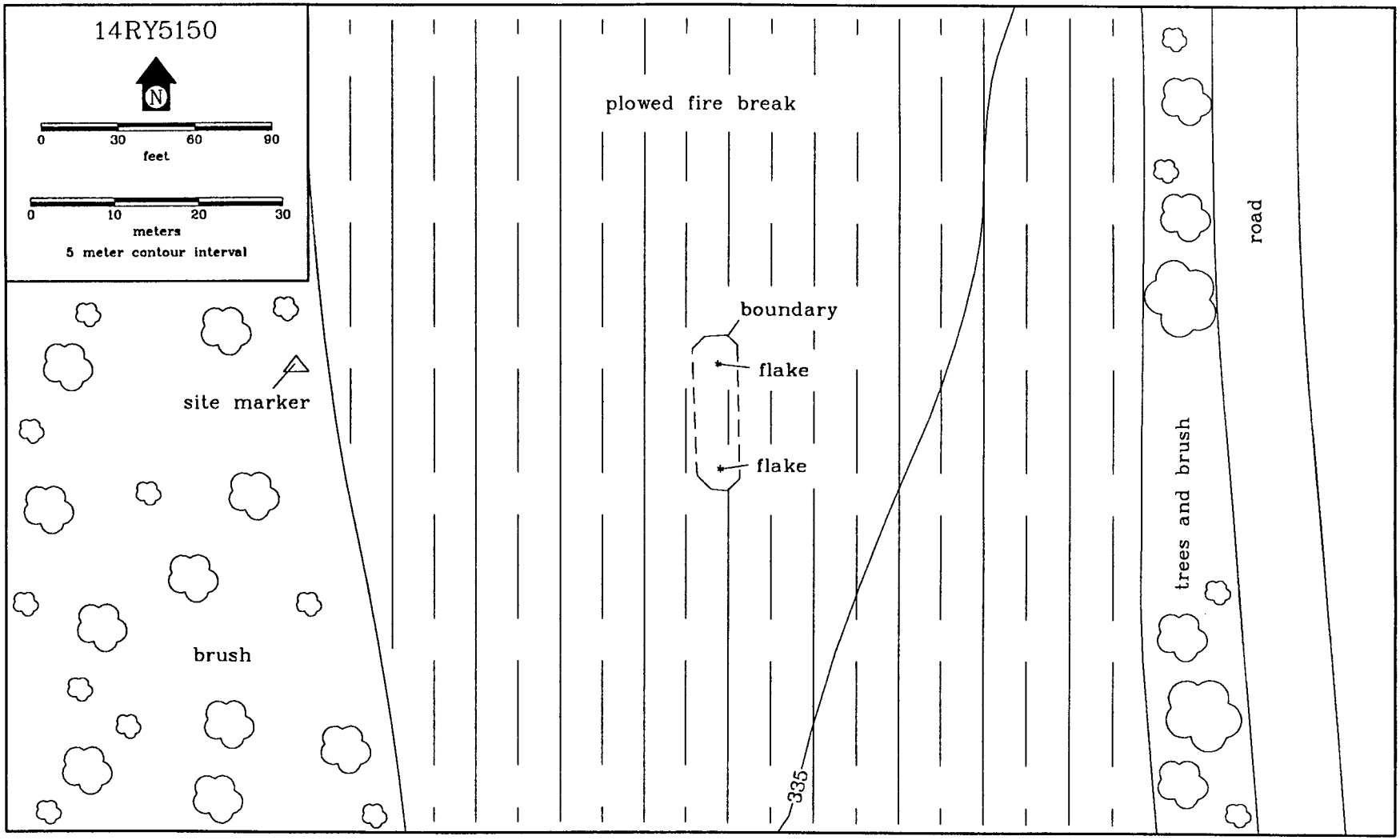

Figure 74. A map of 14RY5150.

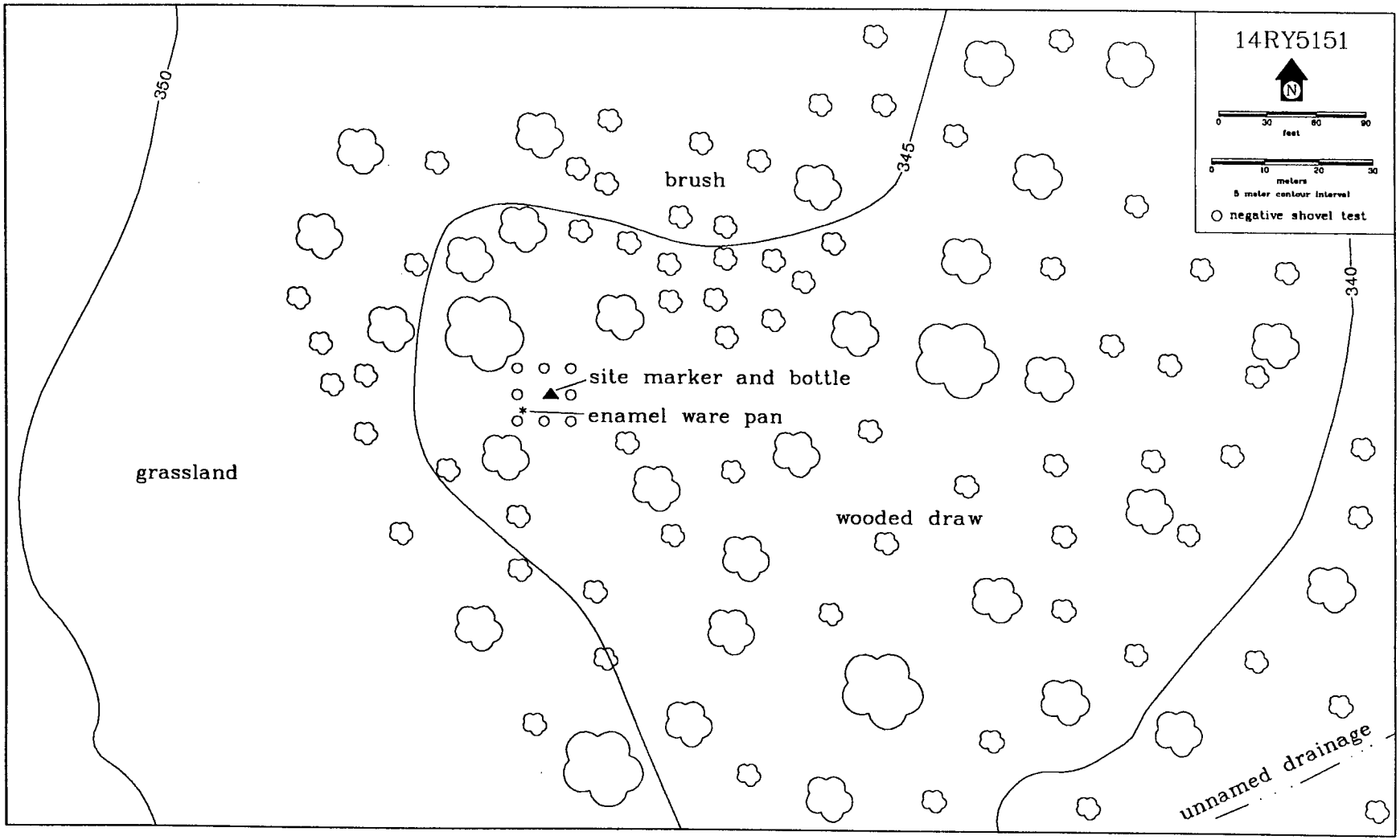

Figure 75. A map of 14RY5151.

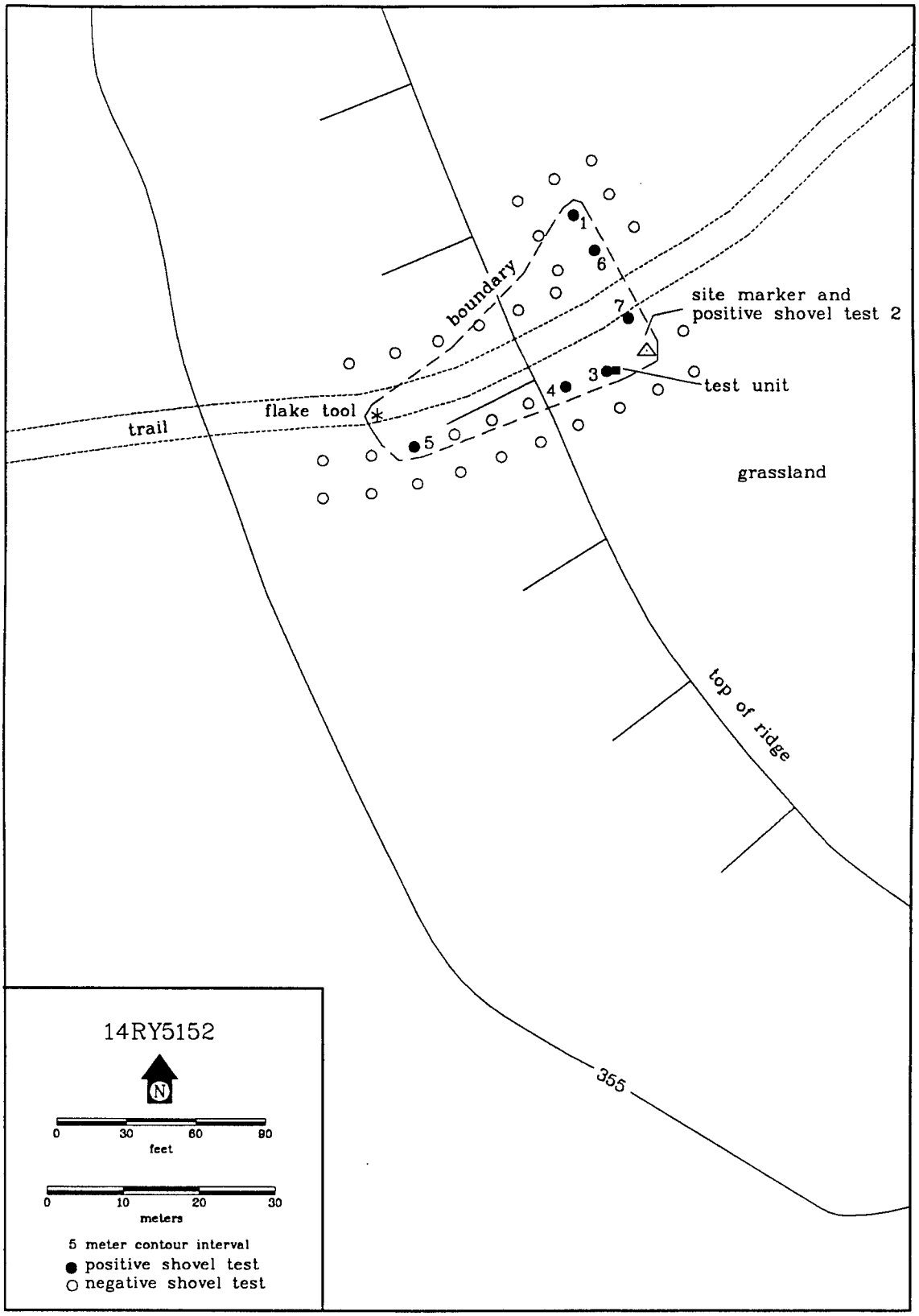

Figure 76. A map of 14RY5152.

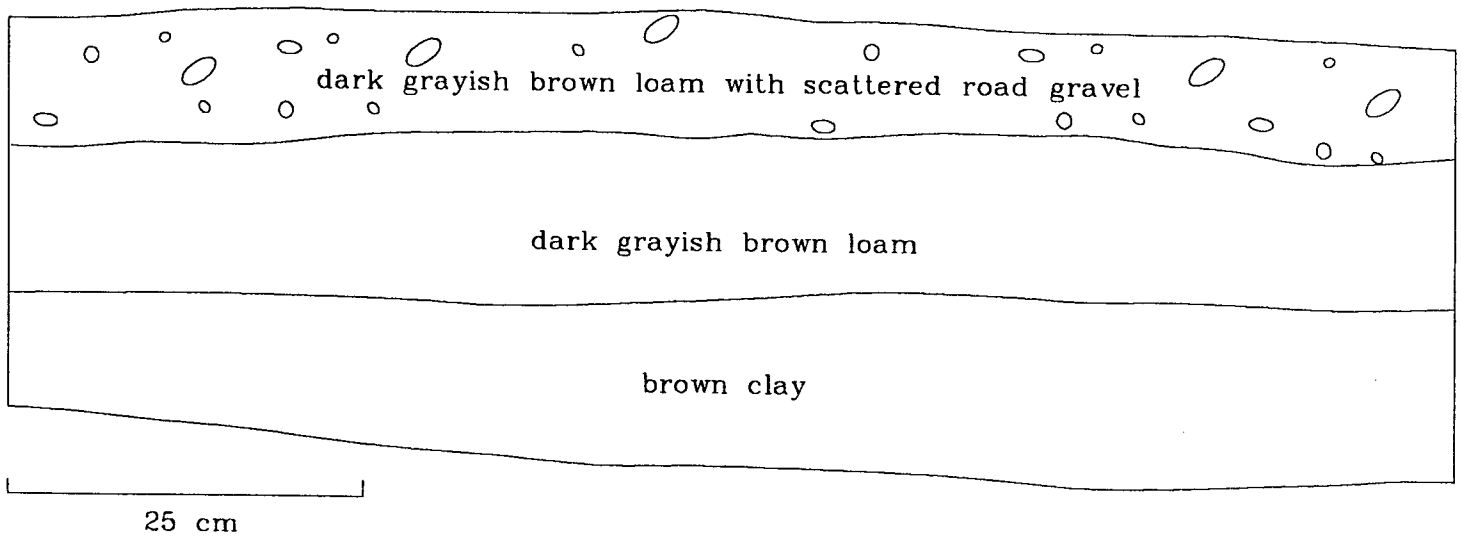

Figure 77. A drawing of the east wall profile from the test unit at 14RY5152.

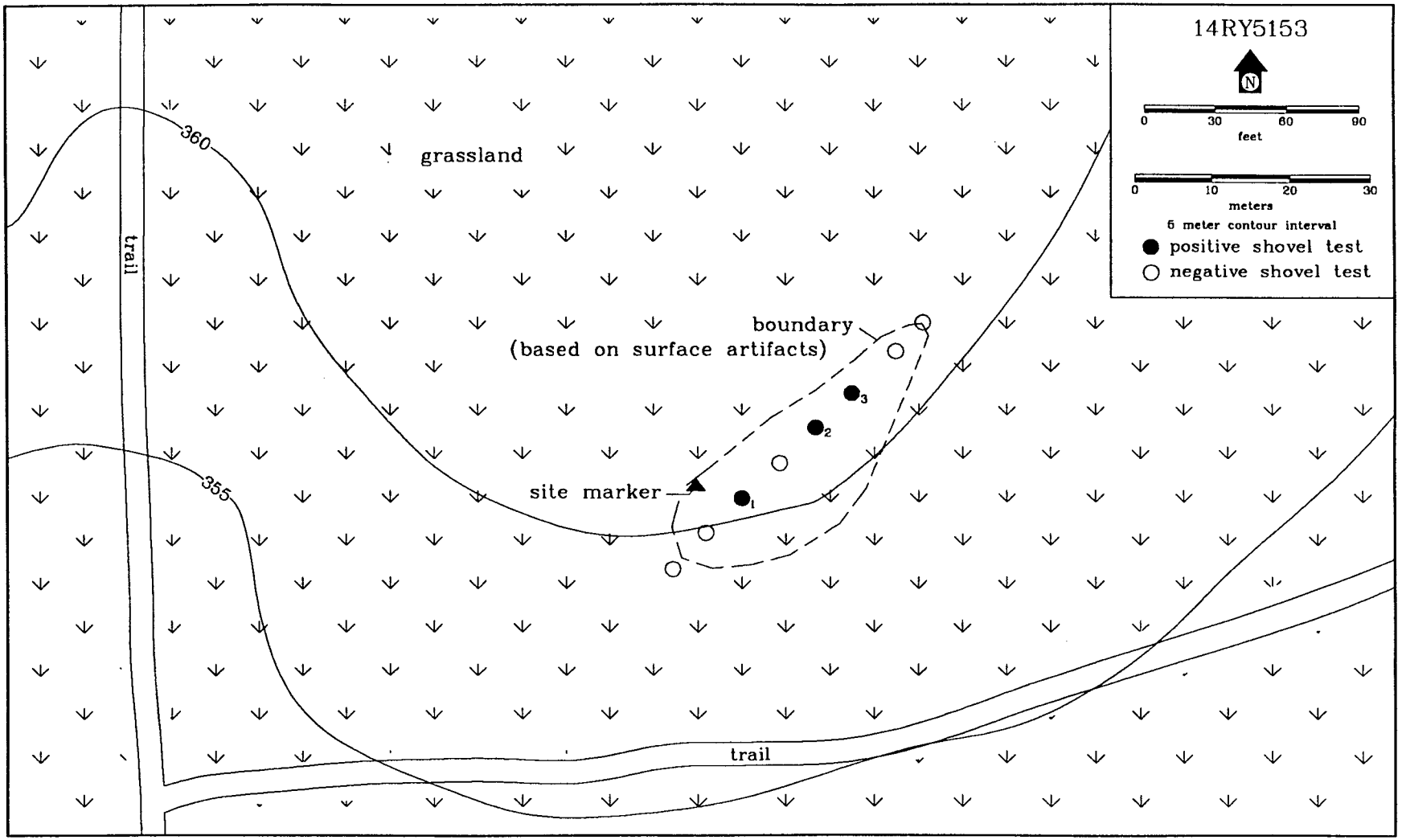

Figure 78. A map of 14RY5153.

14RY5154 (Figure 79)

This site is composed of a thin scatter of historic debris in a cultivated east-west fire break along the southern boundary of Fort Riley. The site area is near the crest of a low hill that drops off to the east, west, and south. The cultural materials observed on 14RY5154 include whiteware, crockery, window glass, and one piece of clear bottle glass. In total, approximately 20 pieces of historic debris were observed. All of this material is highly fragmented, no doubt from the repeated plowing of the fire break.

The artifacts are approximately 200 meters uphill and to the north-northwest of 14RY2136, a set of foundations recorded during the USACERL homestead study on Fort Riley. The proximity between the two sites suggests that they could be related, perhaps both created by the activities of the same landowner.

The location of 14RY5154 is also approximately 250 meters east of the plotted position of 14RY124, a scatter of historic debris recorded by McDowell and McGowan (1993). Because nothing was observed at that location during the 1995 LTA inventory work, it is believed that its position was misplotted and that 14RY124 may, in fact, be the same site as 14RY5154. The collected artifact sample from 14RY124 (McDowell and McGowan 1993:89) - stoneware, whiteware, window glass, glass, and a ceramic marble - appears to be very similar to the artifacts observed at 14RY5154 in 1995.

951003a-12

This is a historic period foundation of mortared limestone. The location is in tall grass prairie north of Elm Hollow. The feature is approximately 5.2 meters north-to-south by 6.8 meters east-to-west (ca. 17-by-22 feet). It appears to be made up of a single course of shaped, rectangular stones, each approximately 30 cm (one foot) wide. The top of the foundation only projects above the present ground surface 10 to 20 cm. The only artifactual material observed was a small fragment of window glass on the east wall of the foundation.

951003a-20

This site contains a large, apparently pre-military depression. The depression is in a heavily wooded area south of an abandoned asphalt road south of Wildcat Creek. The main part of the feature is approximately 5 meters north-to-south by 6.2 meters east-to-west (ca. 17-by-20 feet). It is approximately 1.5 meters deep in its center. A narrower trench enters the feature from the south. Although it has been extensively disturbed and nearly filled with recent trash, the depression appears to have been intentionally laid out and excavated, perhaps as a basement or cellar.

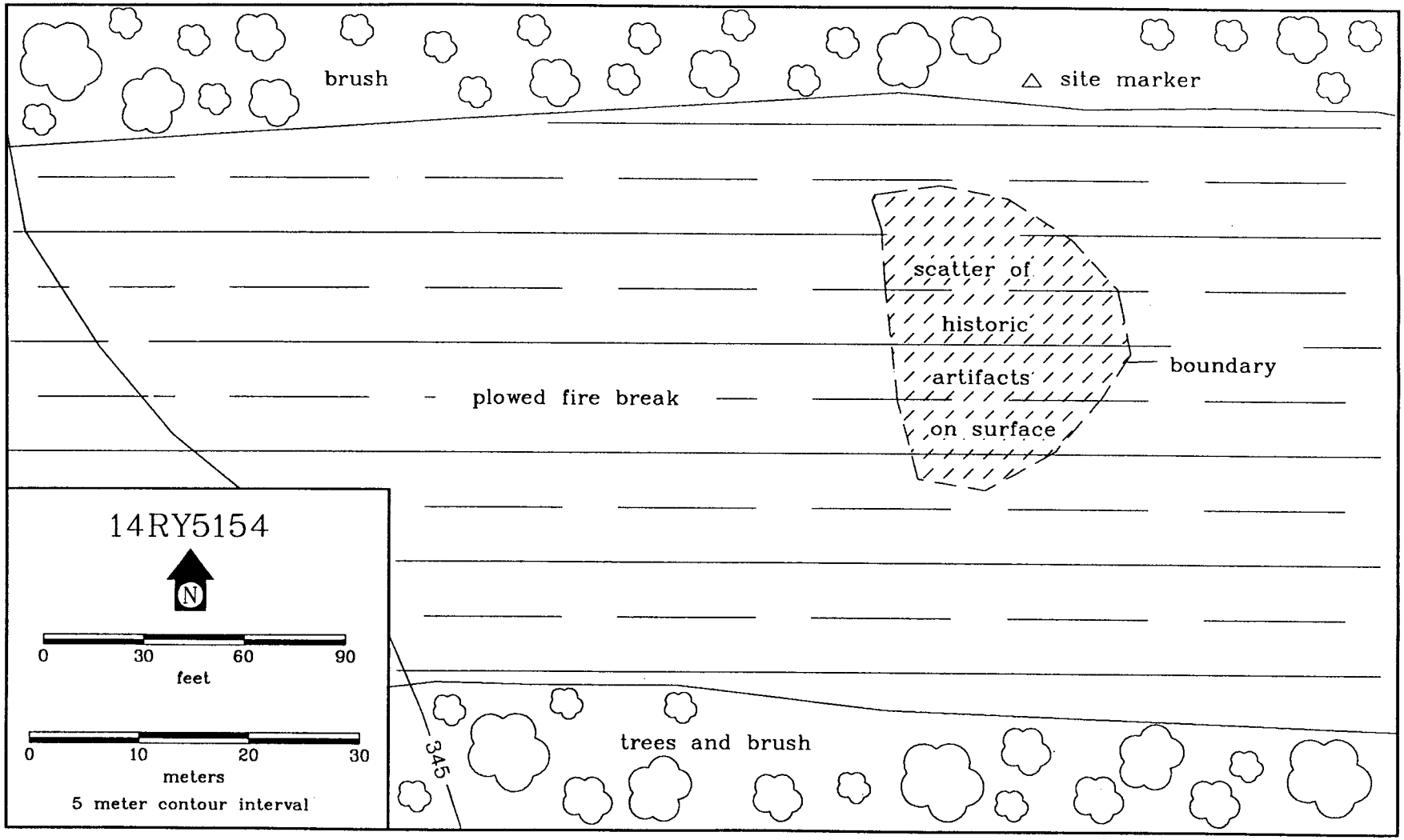

Figure 79. A map of 14RY5154.

4

STAGE II STUDY RESULTS

INTRODUCTION

Thirty sites and 14 isolated finds were identified as a result of the Stage II investigations. Thirty of these are prehistoric localities and 11 are historic. Three sites contain both prehistoric and historic components. Table 3 is a comparison of assigned site numbers to temporary numbers left on the site markers.

Table 3. A list of assigned site numbers and corresponding temporary numbers.

Site #	Temp. #	Site #	Temp. #
14GE183	----------	14RY5162	951003a-69
14GE329	----------	14RY5163	951003a-70
14GE3101	951003a-88	14RY5164	951003a-71
14GE3102	951003a-89	14RY5165	951003a-77
14GE3103	951003a-85	14RY5166	951003a-78
14GE3104	951003a-87	14RY5167	951003a-60
14GE3105	951003a-86	14RY5168	951003a-62
14GE3106	951003a-90	14RY5169	951003a-63
14GE3107	951003a-91	14RY5170	951003a-61
14RY46	----------	14RY5171	951003a-75
14RY47	----------	14RY5172	951003a-73
14RY3172	----------	14RY5173	951003a-80
14RY3184	----------	14RY5174	951003a-84
14RY3185	----------	14RY5175	951003a-82
14RY5115*	951003a-76	14RY5176	951003a-72
14RY5155	951003a-59	14RY5177	951003a-53
14RY5156	951003a-58	14RY5178	951003a-52
14RY5157	951003a-57	--------	951003a-64
14RY5158	951003a-65	--------	951003a-74
14RY5159	951003a-66	--------	951003a-79
14RY5160	951003a-68	--------	951003a-81
14RY5161	951003a-67	--------	951003a-83

* This site number was originally used in the Stage I draft report (Larson and Penny 1996) to designate a site with both a prehistoric and historic component. Since the writing of that report, it has been learned that this site was actually previously recorded and had been assigned the number 14RY4131. Site number 14RY5115 has therefore been reassigned to a site in the Stage II survey area.

CULTURAL RESOURCE DESCRIPTIONS

14GE183 (Figure 80)

This prehistoric site is on a wooded hill top overlooking Pumphouse Canyon. The site was originally recorded in August of 1994 during a USACERL geoarchaeological investigation at Fort Riley. The original site form states that "the site contains a surface component(s) in the Ap horizon and at least one buried component was encountered during the geoarchaeological investigation of the landform." Although the buried component mentioned in this quote was no doubt encountered in a backhoe trench excavated at the site, no description is presented regarding the component's characteristics or depth.

No cultural material was observed on the surface during the 1996 investigations at 14GE183. One hundred shovel tests excavated on a 10 m grid produced Florence chert flakes at 10 locations. A 1-by-1 m test unit was positioned near the center of the positive shovel tests and excavated to 50 cm. While flaking debris was encountered from the surface to 40 cm, the 10 to 20 cm level of the test unit produced 58 flakes, a noticeable increase from the levels above and below it. This concentration of flaking debris appears to be coming from the bottom portion of a brown sandy stratum that lies on top of a reddish brown stratum (Figure 81).

14GE329 (Figure 82)

This mound is along Fort Riley's western property line fence on a high bluff overlooking the Republican River. The mound was originally recorded in 1976 by Don Rowlison during a search for prehistoric sites in the southwestern part of the fort (Barr and Rowlison 1977). At the time of that recording, Rowlison noted that the mound was mentioned on an 1855 map of Fort Riley. A Kansas State Historical Society cataloging sheet attached to the Rowlison form indicates that a projectile point base and a flint chip were collected from the site area. The site form also mentions that bone scraps and pieces of Florence chert were observed in the vicinity of the mound.

As recorded in 1996, the mound is 6.4 m in diameter and approximately 40 cm in height. It appears to be composed of pieces of limestone and earth fill. An undated Corps of Engineers marker, consisting of a poured concrete monument topped by a brass cap, is present near the center of the feature. There is at least one active borrow in the mound. A slight depression in the northern part of the feature may be due to past vandalism. No cultural material was observed in or around the mound.

14GE3101 (Figure 83)

This isolated find consists of a Florence chert flake found in a shovel test on the first terrace above Pumphouse Creek. Eight shovel tests excavated on a five meter grid around the location of the artifact did not produce any other cultural material.

14GE3102 (Figure 84)

This isolated find is a flake of Florence chert. It was found in a shovel test on the second terrace above Pumphouse Creek. No other cultural material was found in a five meter grid of shovel tests excavated around the original location.

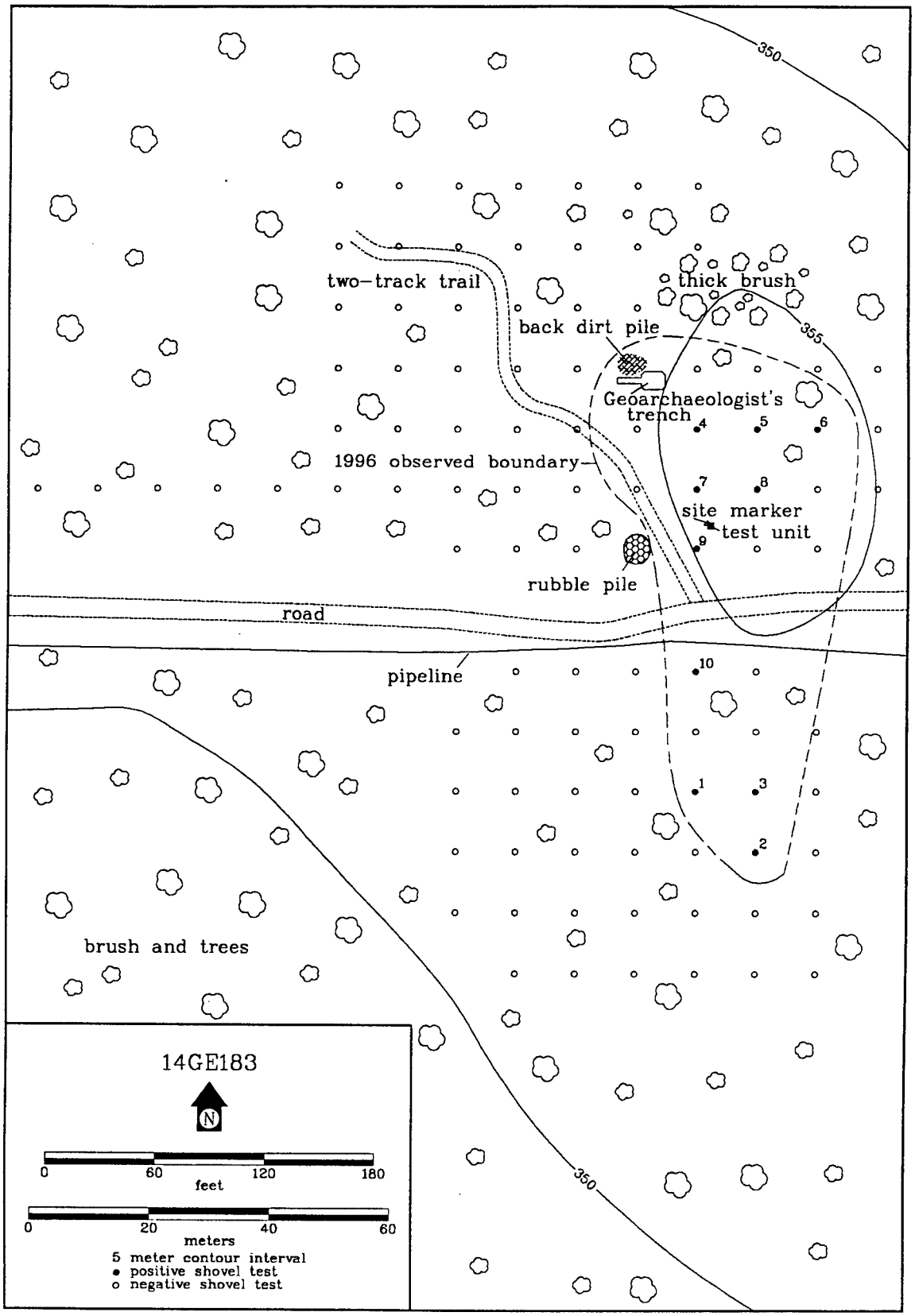

Figure 80. A map of 14GE183.

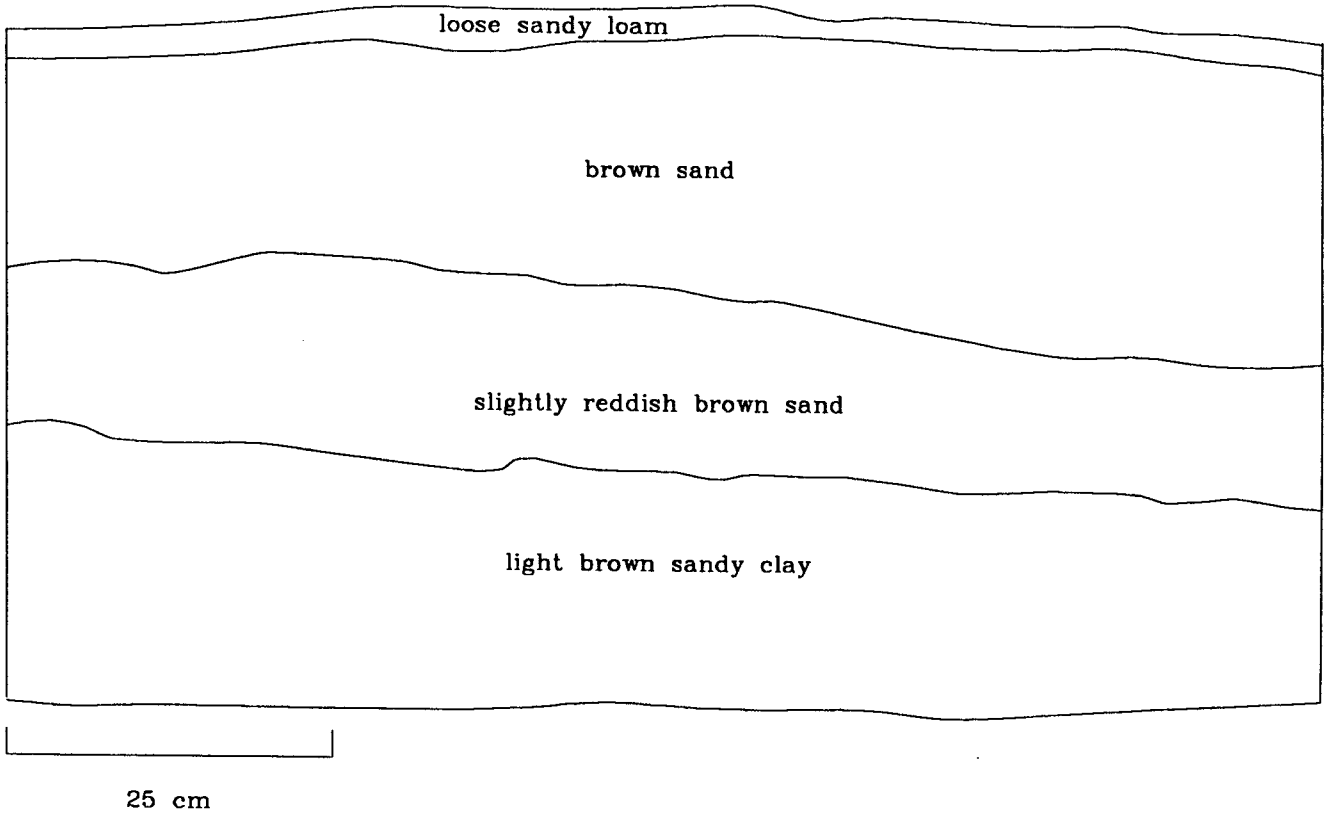

Figure 81. A drawing of the west wall profile from the test unit at 14GE183.

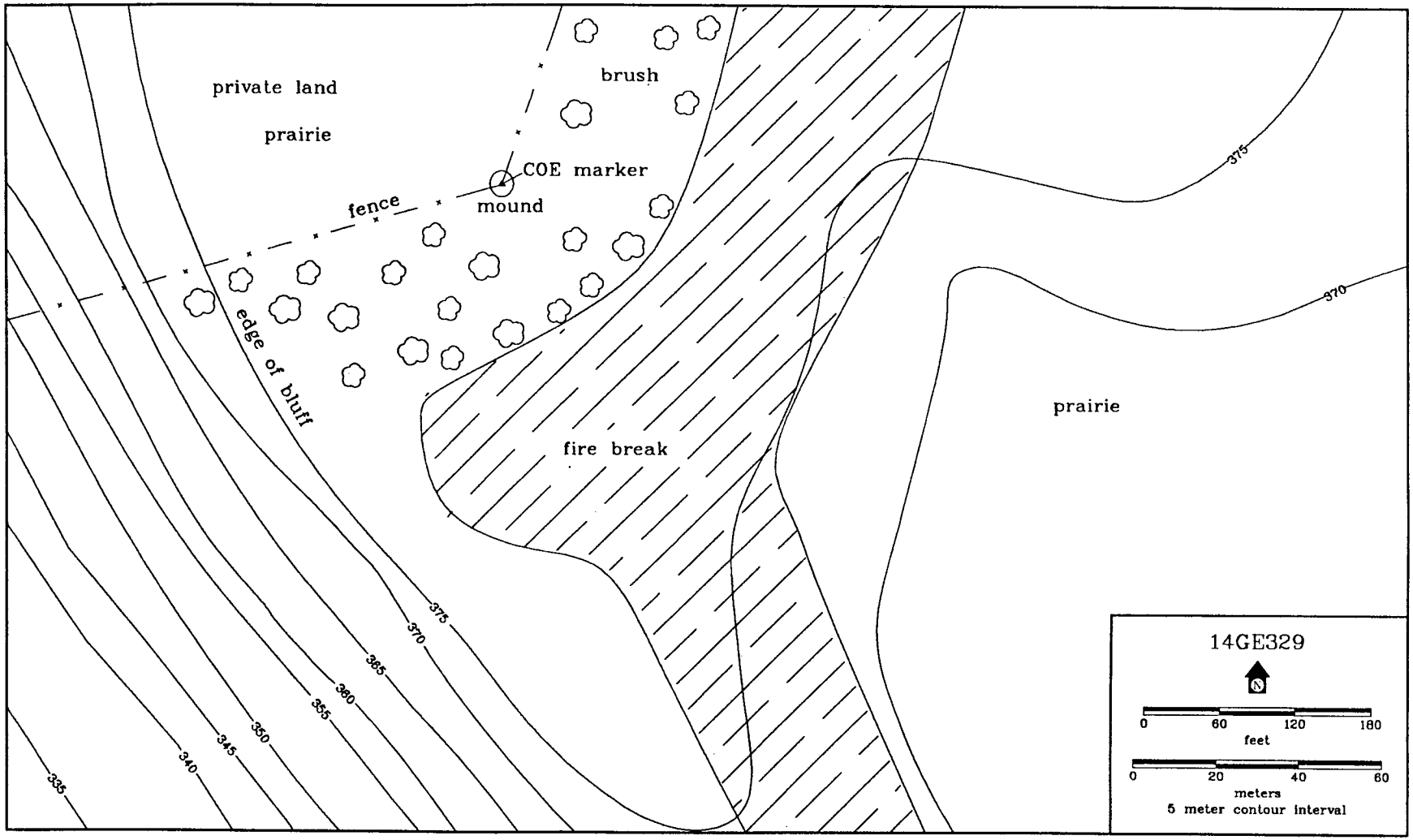

Figure 82. A map of 14GE329.

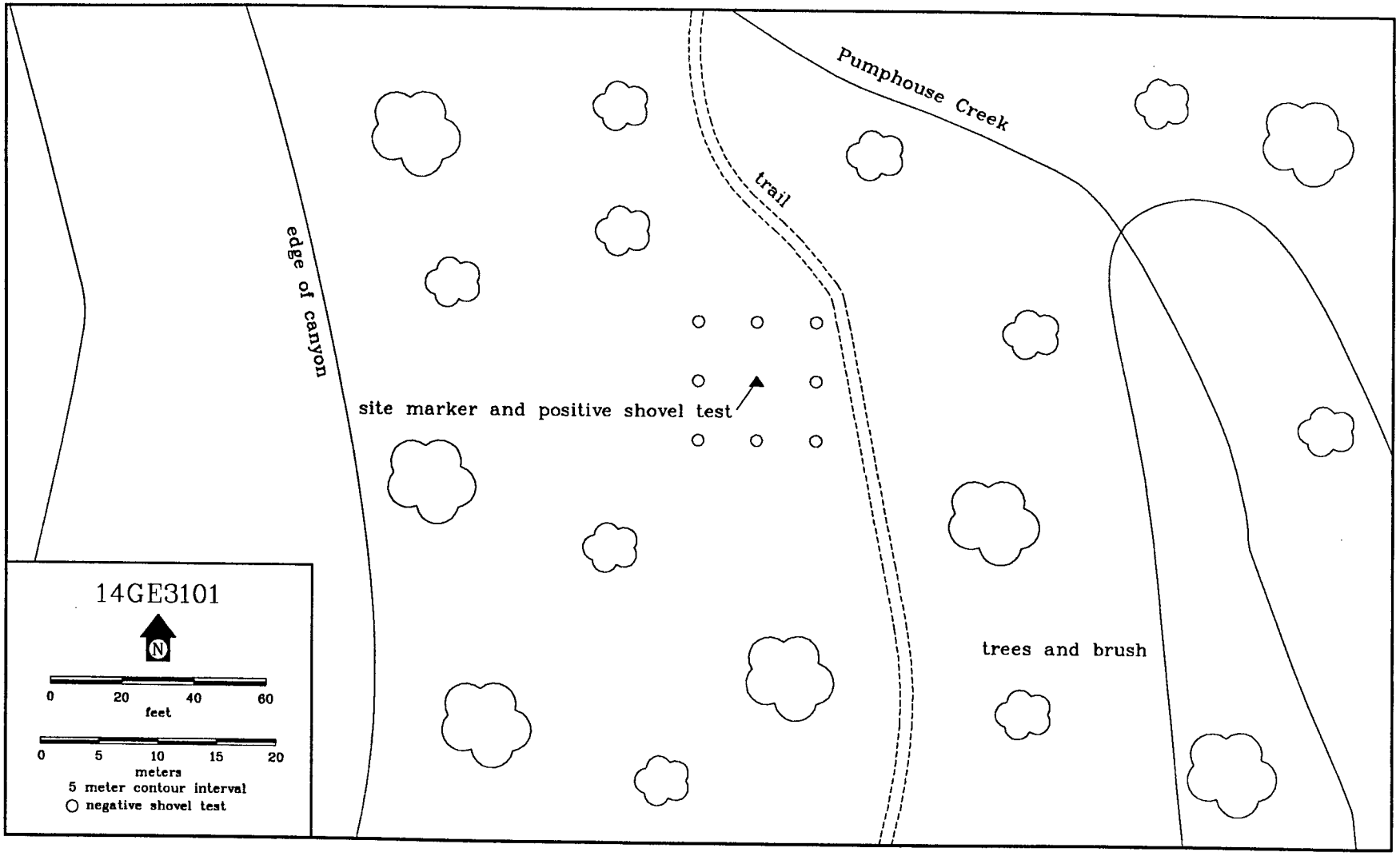

Figure 83. A map of 14GE3101.

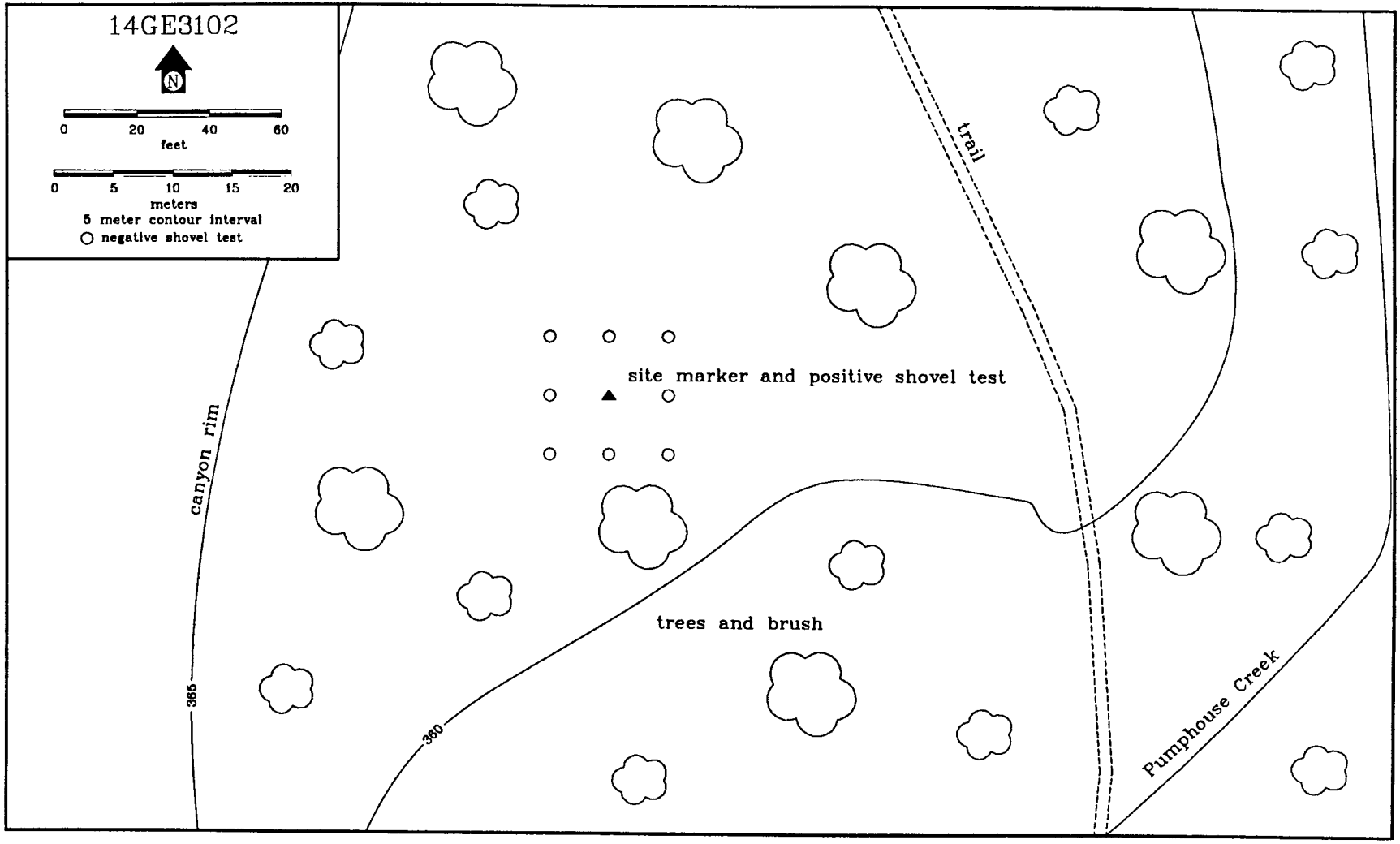

Figure 84. A map of 14GE3102.

14GE3103 (Figure 85)

This site consists of a low wall of stacked limestone on a terrace above the east bank of Onemile Creek. The wall is approximately 70 feet long and 5 feet wide. Several upright poles were once positioned along the feature but these have been broken off near their bases.

This feature is believed to be a horse jump built for cavalry training in the early twentieth century. Pride (1926:237) reports that the first course in "Equitation and Horse Training" was held at Fort Riley in 1904 and that the lessons included ". . . the curb, jumping, high jumping in which good jumpers were used over jumps four to five feet eight inches in height . . ." The Cavalry School continued at the post until the end of World War II. The jump recorded as 14GE3103 is one of four such features encountered during LTA's 1996 inventory work (the others being 14GE3104, 14GE3105 and 14RY5174).

14GE3104 (Figure 86)

This site contains both a prehistoric and a historic component. Florence chert flakes were found in 16 of 53 shovel tests excavated on a 10 meter grid on a terrace near the east bank of Pumphouse Creek. A 1-by-1 meter test unit excavated near the south end of the site produced additional flaking debris, two fragments of mammal bone, and a possible flake tool. Although cultural material was found to a depth of 50 cm, there seems to be a concentration of artifacts between 10 and 30 cm. This concentration is above a lens of limestone gravel that appears to be water deposited (Figure 87).

Near the north end of 14GE3104 there is a low earthen berm approximately 60 feet long and 15 feet wide. The feature appears to have been constructed by the Army. It is believed to have been a horse jump or some other form of obstacle used for cavalry training. Pride (1926:237) reports that the first course in "Equitation and Horse Training" was held at Fort Riley in 1904 and that the lessons included ". . . the curb, jumping, high jumping in which good jumpers were used over jumps four to five feet eight inches in height . . ." The Cavalry School continued at the post until the end of World War II. The jump recorded at 14GE3104 is one of four such features encountered during LTA's 1996 inventory work (the others being 14GE3103, 14GE3105 and 14RY5174).

14GE3105 (Figure 88)

This site consists of a mortared limestone wall approximately 65 feet long and 3 feet wide. There is a six inch wide groove in the top of the feature that runs the length of the wall. This feature is believed to be a horse jump built for cavalry training in the early twentieth century. The groove in the top of the feature was probably used to position planks or poles to be jumped over. Pride (1926:237) reports that the first course in "Equitation and Horse Training" was held at Fort Riley in 1904. The Cavalry School continued at the post until the end of World War II. The jump recorded as 14GE3105 is one of four such features encountered during LTA's 1996 inventory work (the others being 14GE3103, 14GE3104 and 14RY5174).

14GE3106 (Figure 89)

This mound is on a small hill that forms a portion of the bluff tops on the north side of the Kansas River valley. The mound, which is constructed of a mixture of earthen fill and pieces of limestone, is approximately five meters in diameter and 50 cm in height. No cultural material was observed in the vicinity of the feature. There are no obvious signs of vandalism but tree growth has disturbed some of the fill.

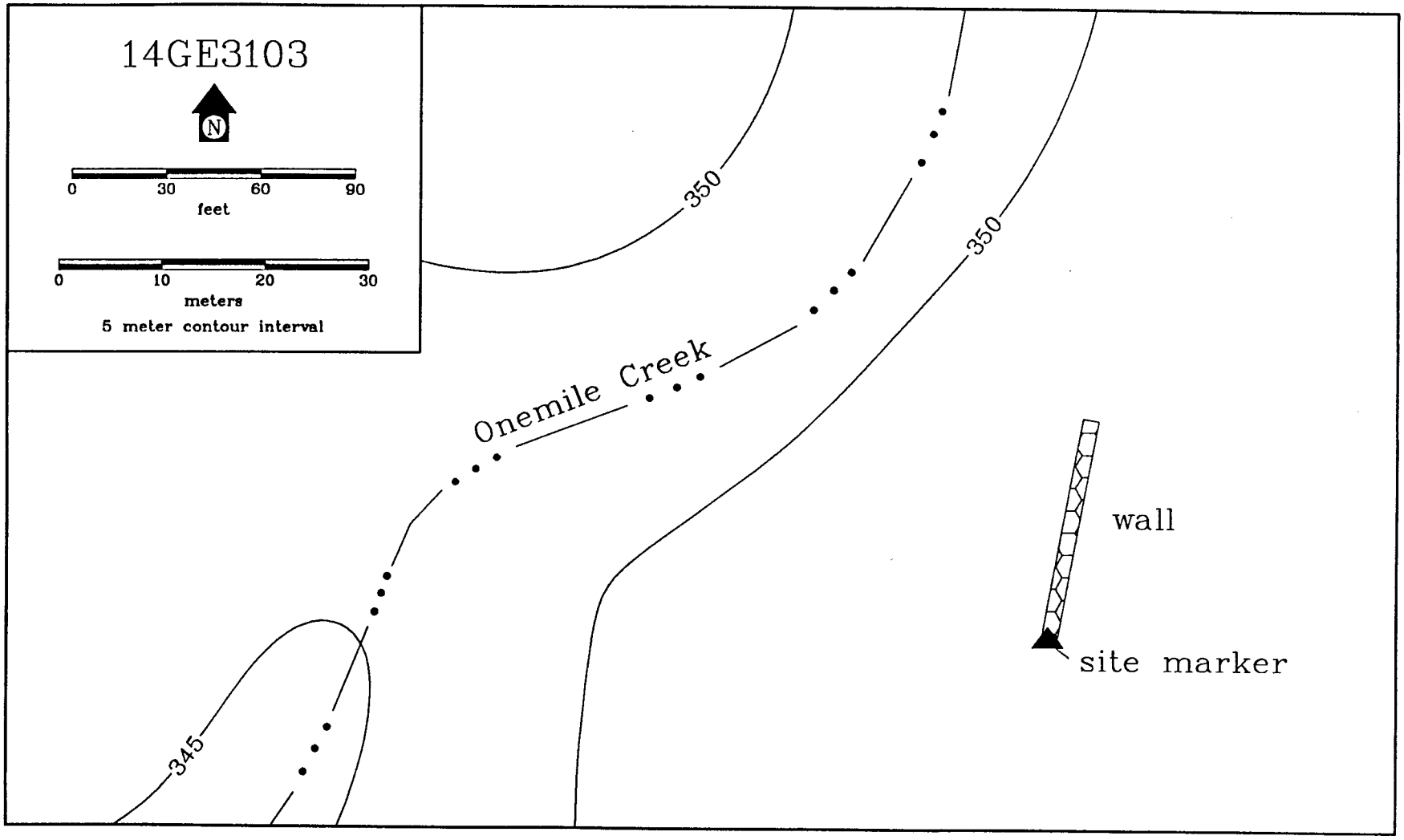

Figure 85. A map of 14GE3103.

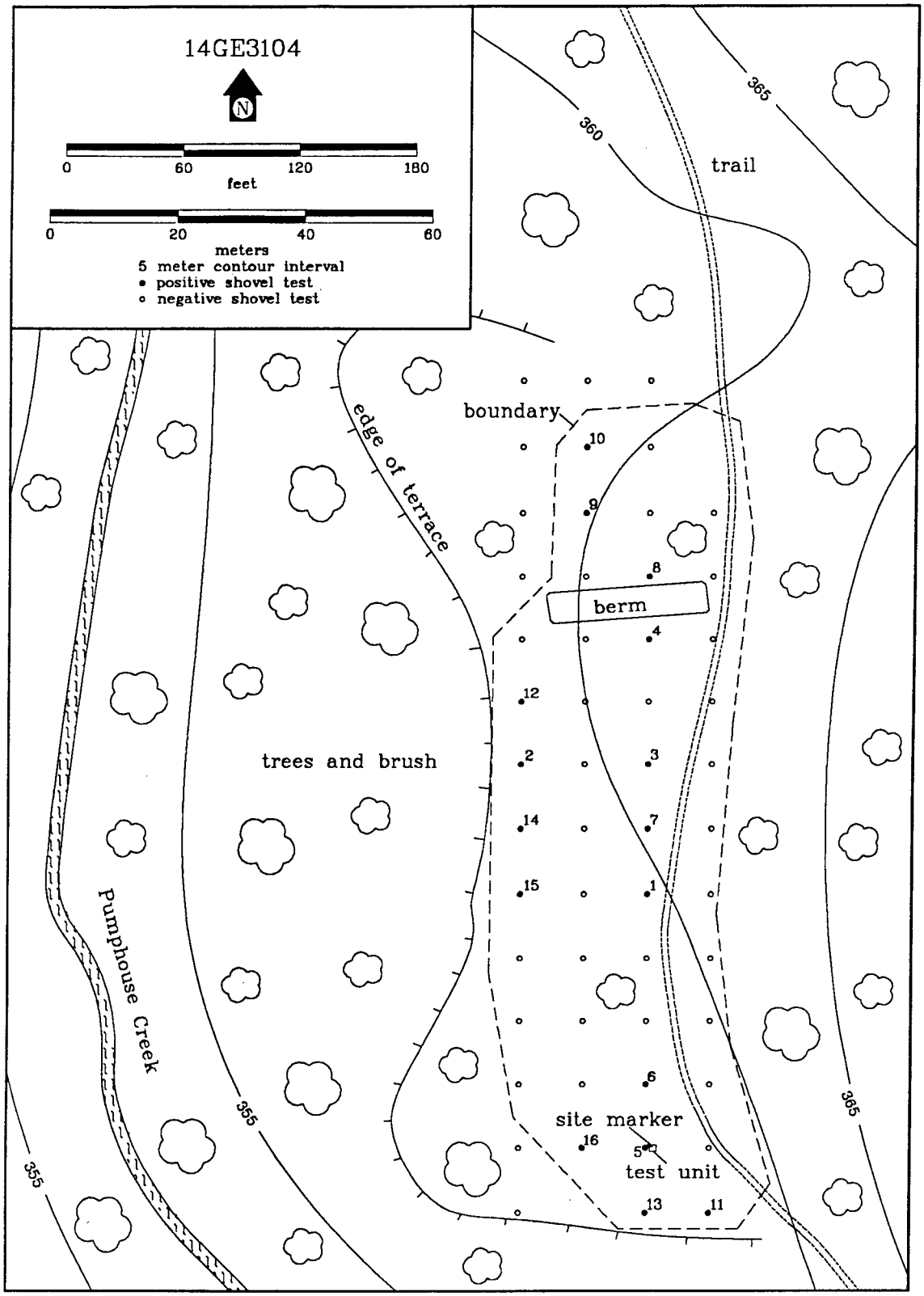

Figure 86. A map of 14GE3104.

Figure 87. A drawing of the west wall profile from the test unit at 14GE3104.

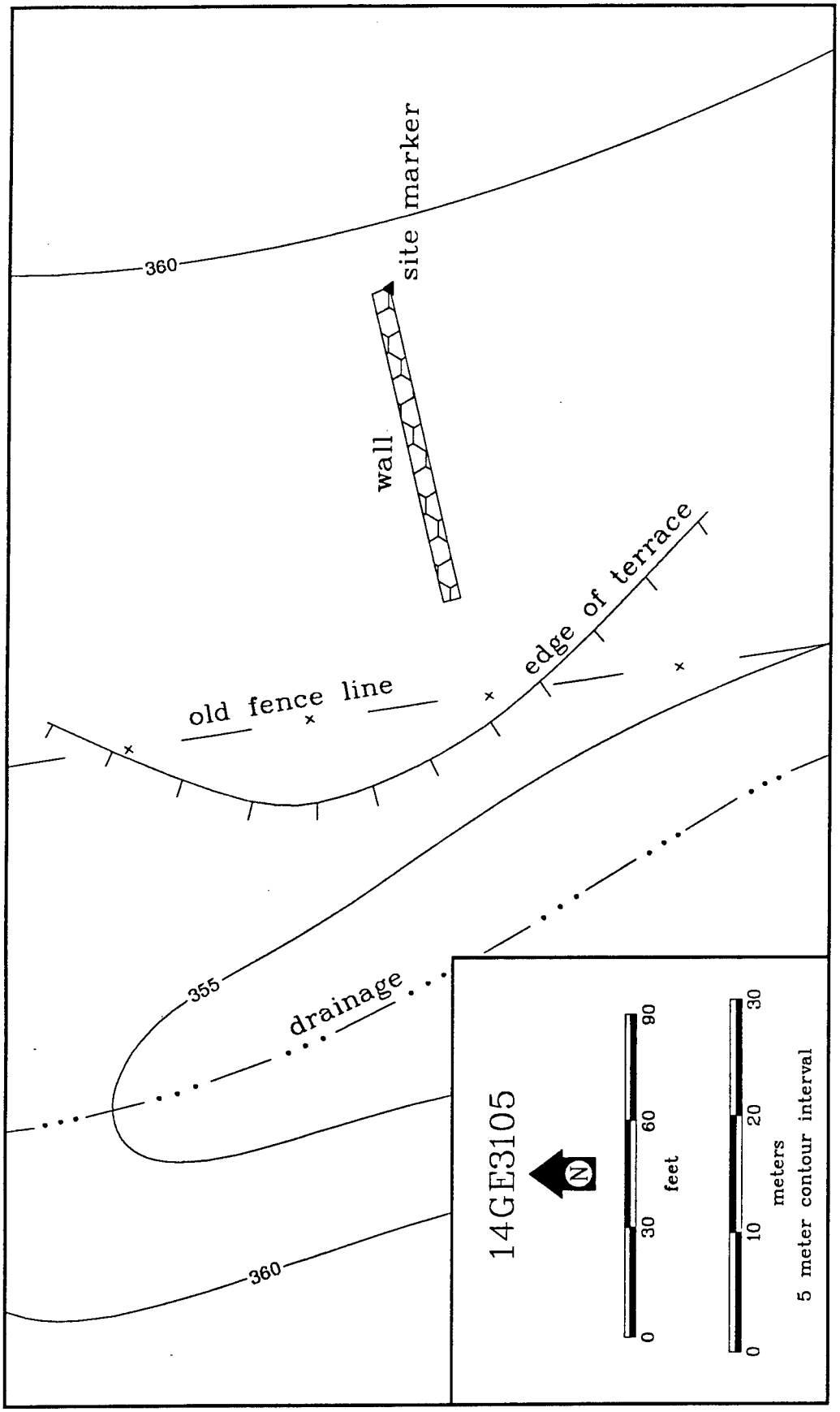

Figure 88. A map of 14GE3105.

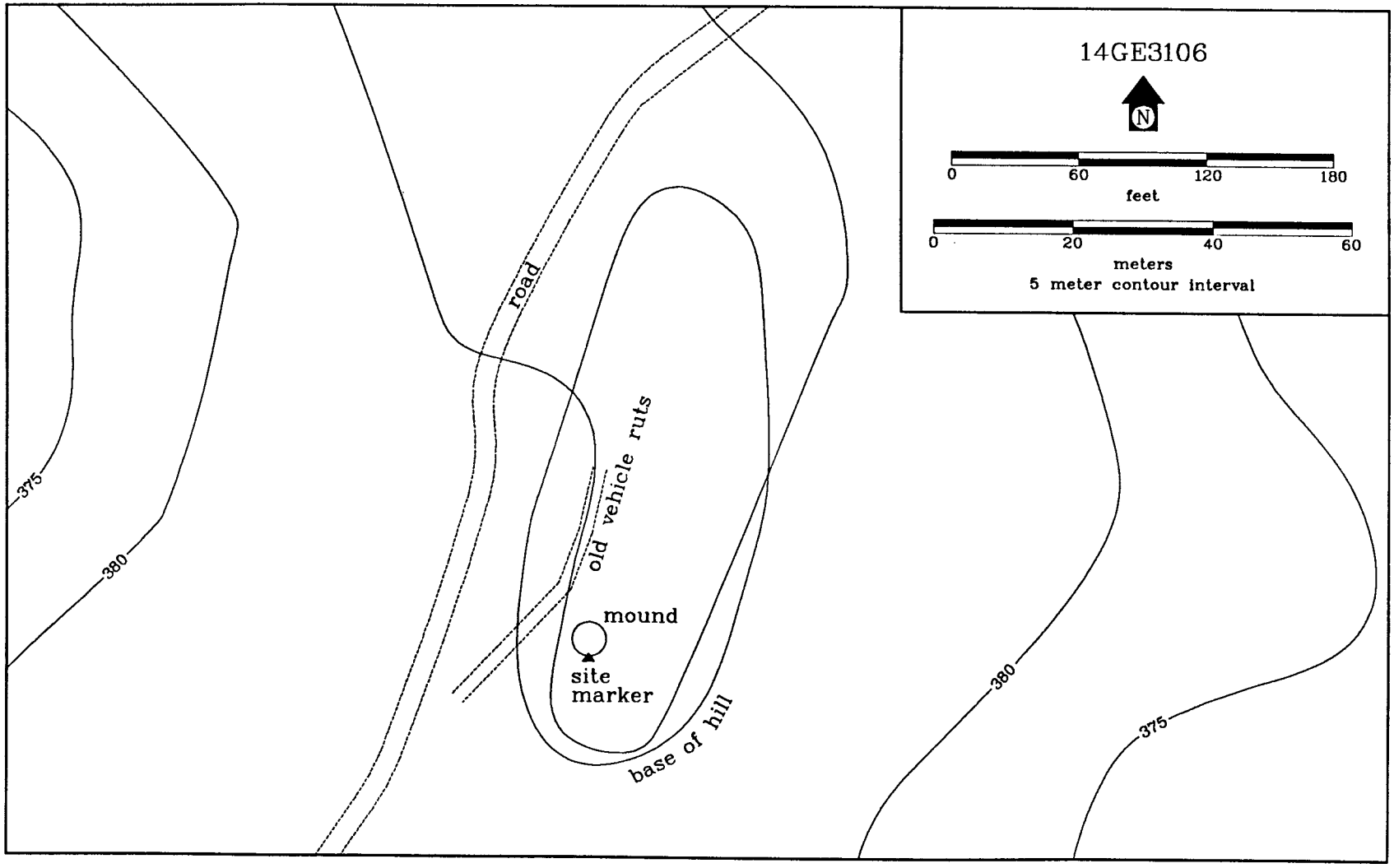

Figure 89. A map of 14GE3106.

This mound is believed to be the same one discussed by O'Brien (1989:74) as 14GE143. However, because of major discrepancies between the location of this feature and the location assigned to 14GE143 by the Kansas State Historical Society, it is believed best to give it another site number. O'Brien uses the number 14GE143 in describing a burial mound apparently excavated by W.J. Griffing but states that "cultural affiliation, size and character are unknown."

14GE3107 (Figure 90)

This mound is near the outdoor chapel on the bluff tops north of the Kansas River valley. The mound is composed of earthen fill and pieces of limestone. It is approximately 10 meters in diameter and 2 meters in height. A flake of Florence chert was observed on the south side of the mound.

The location of this mound, as well as one to the northeast of it (14GE3106) match very well with the position of two mounds shown on W.J. Griffing's 1903 maps of burial mounds in the vicinity of Fort Riley (O'Brien 1989:Map 8). This mound is believed to be the same one discussed by O'Brien (1989:74) as 14GE142. However, because of major discrepancies between the location of this feature and the location assigned to 14GE142 by the Kansas State Historical Society, it is believed best to give it another site number.

The feature also has a historic component that may be the remains of the original Ogden Monument. The Ogden Monument was erected in honor of Brevet Major E.A. Ogden, the original post commander who died in a cholera epidemic at Fort Riley in 1855. On the top of the mound today, there is a square of cut limestone, on top of which someone has inscribed the words "ORIGINAL MONUMENT". The surface on which these words are inscribed is rough and broken, suggesting that this square of limestone could be the base of an obelisk that formed the original monument. To the north of the limestone is what appears to be the remains of a partially buried set of concrete stairs.

Pride (1926:83), quotes a narrative by Percival G. Lowe in which the Ogden Monument is described.

> I will now refer briefly to the Ogden monument. The original was designed by Mr. Sawyer and was prepared and erected by quarry men, stone-cutters, laborers and teamsters, under the direction of Mr. Sawyer and myself, without other cost to the government than the pay of the men while the work was being done. The stone was of the kind used in the building of Fort Riley. In time, neither the government nor anyone else heeding it, cattle made of it a rubbing post, vandals chipped pieces from it and scratched their names on it and it became a wreck. It was not expected to be permanent, the hope of the builders being that it would be replaced with something worthy of the man whose memory it was intended to perpetuate . . . . Another shaft was afterward erected, much better than the original, but not what it ought to have been.

Pride (1926:87) believes that the second monument replaced the original in 1865 or 1866. He also states that "other old settlers have stated that they always 'understood' the original monument was only a pile of stones. . ." There is no evidence that the second monument was erected in the same place as the first one. A third version of the Ogden Monument was produced in 1923 and erected in one of the post's old quarry areas. It has since been moved several times.

Other than it was obviously on the bluff tops above the Main Post, there is little, if any, information concerning the exact location of the original monument. A pen and ink drawing from 1878 (Pride 1926:76) shows a monument on the bluffs roughly northwest

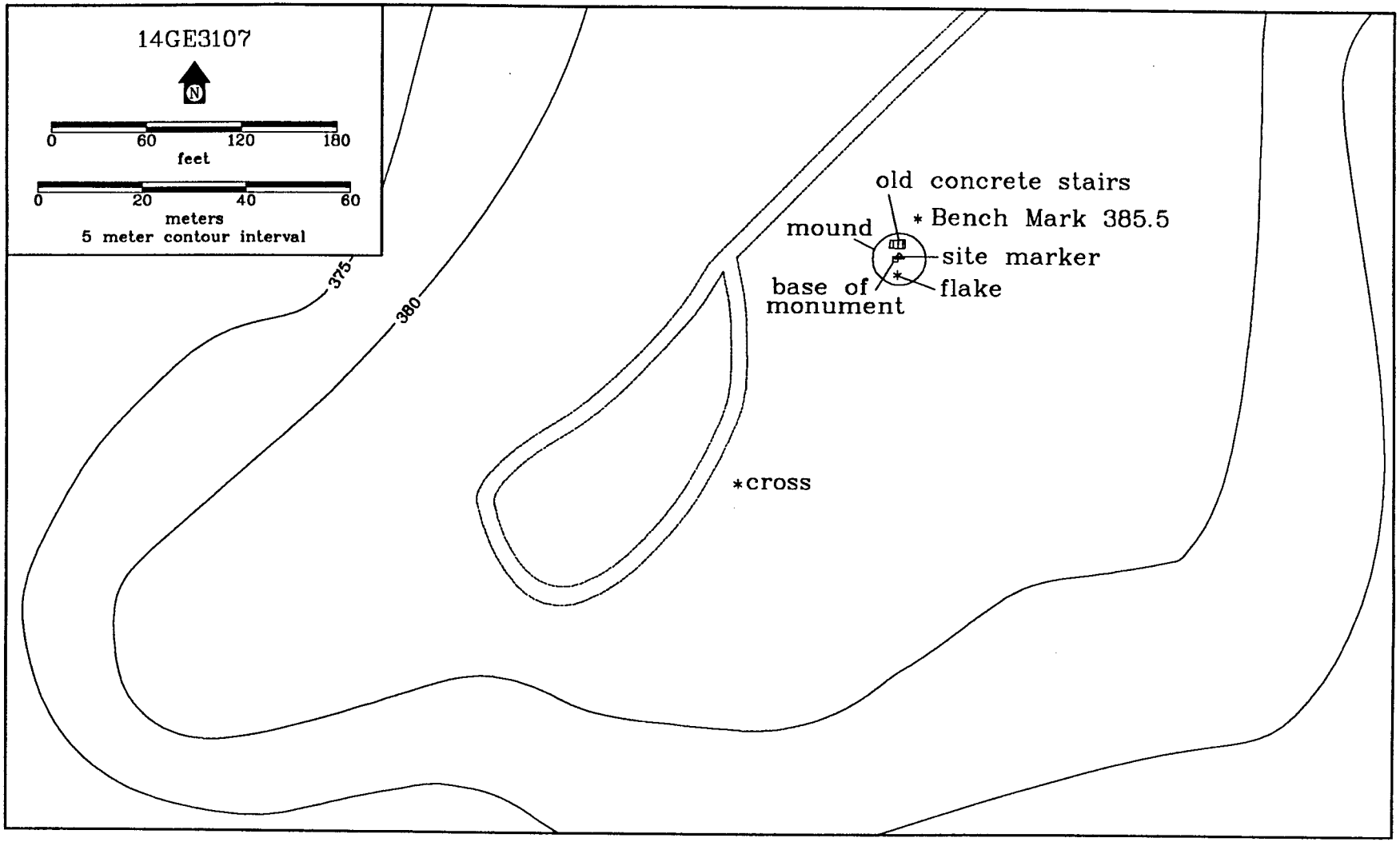

Figure 90. A map of 14GE3107.

of the original post buildings. By 1878, however, the monument pictured in the drawing would have been the second one constructed.

14RY46 (Figure 91)

This small earth and limestone mound was found at the location shown for the Burnett Mound on W.J. Griffing's 1903 maps of burial mounds in the vicinity of Fort Riley (O'Brien 1989:Map 8). The feature is approximately half way down a narrow east-west ridge that leads to Sheridan Point. The mound is 5.6 m north-to-south by 5 m east-to-west and approximately 75 cm in height. It appears that some rock and other debris have been dumped over the top of the mound in recent times. What may be the base of an old Corps of Engineers marker is present on the top of the mound. The 8-by-9 inch piece of poured concrete has been broken off just above the ground level. It is very similar in appearance to the base of an intact Corps marker noted at another mound on Fort Riley (14GE329).

O'Brien (1989:29) indicates that 14RY46 was excavated by Griffing. There is no obvious indication of this digging on the surface of the mound.

14RY47 (Figure 92)

There is a very low but definite mound at the location on Sheridan Point indicated for the Reeder Site on Griffing's 1903 map of burial mounds in the vicinity of Fort Riley (O'Brien 1989:Map 8). The feature is 6.5 m in diameter and approximately 50 cm in height. The mound is mostly of earthen construction with some rock. There is one large piece of limestone on the surface of the mound near its center. Although O'Brien (1989:29) indicates that this mound was excavated by Griffing, there are no obvious signs of disturbance. No cultural material was observed in the vicinity of the mound.

14RY3172 (Figure 93)

A Fort Riley pistol and rifle range was recorded as 14RY3172 by David Babson in 1993. A feature encountered by LTA in 1996 is thought to be an additional part of this range. For this reason, the site's original boundaries have been expanded to the north.

The feature is a 75 m long concrete target area. It is fronted on its east side by a large earthen berm. On the west side of the concrete wall there are the remains of a latrine, other concrete footings, parts of the communications system (junction boxes and a telephone pole), metal targets and wooden target holders. Shovel tests excavated behind the wall produced a high density of .30 caliber rifle and carbine bullets. Based on the orientation of the target area, the firing positions would have been to the southeast, across Threemile Creek. The target area was accessed by a foot bridge across the creek. The bridge, which is now collapsed and partially washed away, was constructed of wood planks and beams on concrete footings.

14RY3184 (Figure 94)

This site was originally recorded in 1993 as part of a USACERL geoarchaeological investigation at Fort Riley. The original site form on 14RY3184 states that "the site contains a surface component in the Ap horizon and at least one buried component encountered during the geoarchaeological investigation of the landform. . . . The surface component(s) appears to occupy an area about 50 meters by 50 meters."

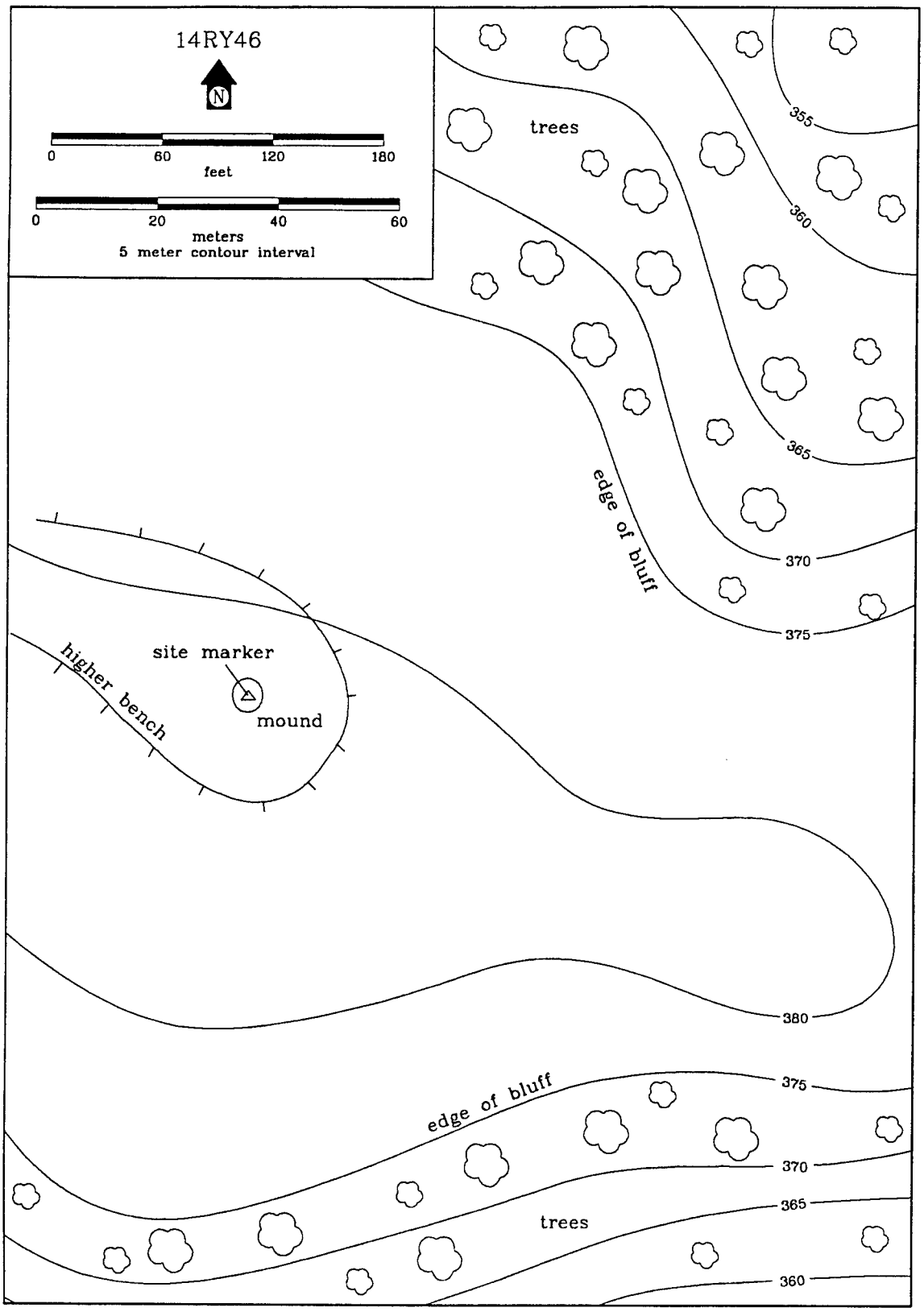

Figure 91. A map of 14RY46.

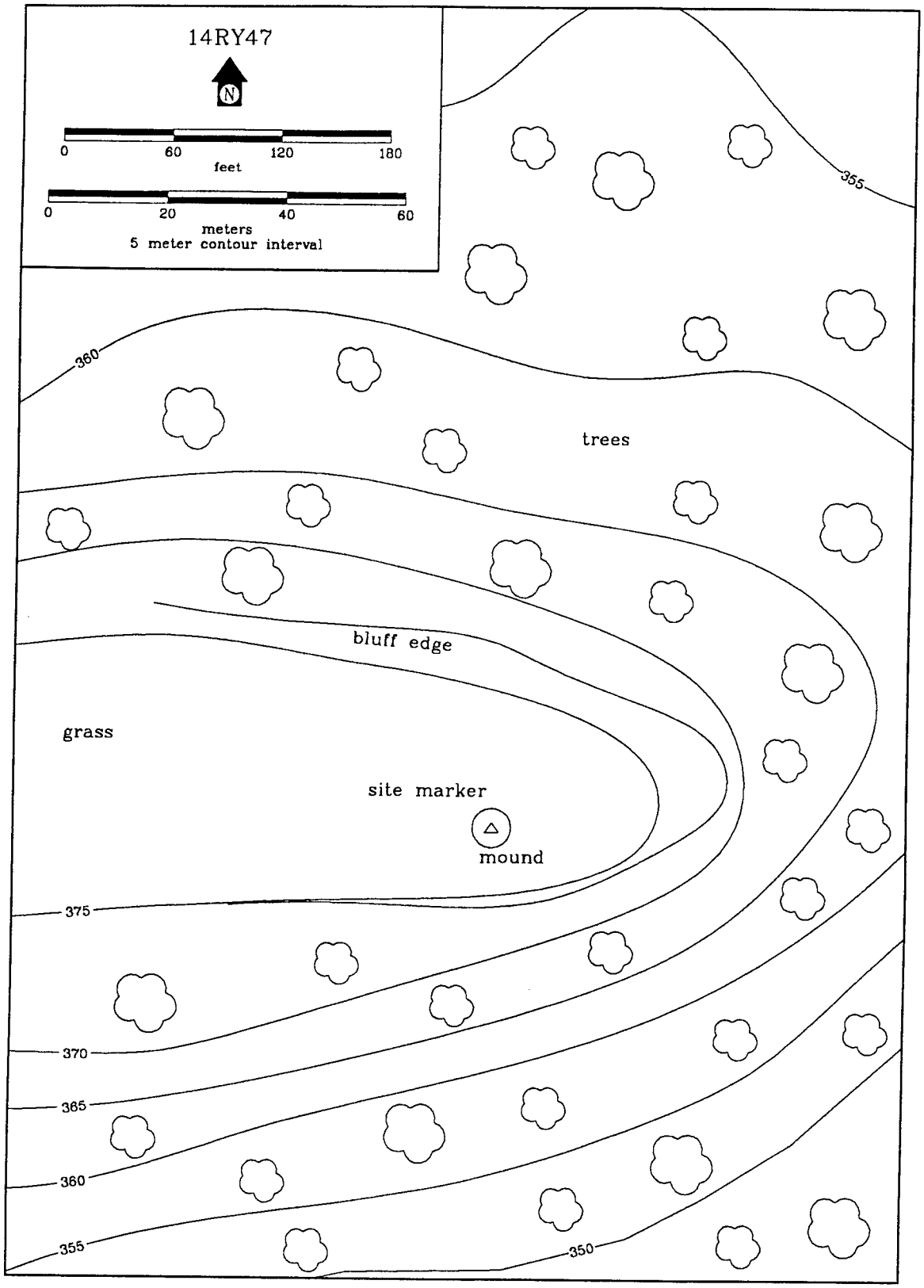

Figure 92. A map of 14RY47.

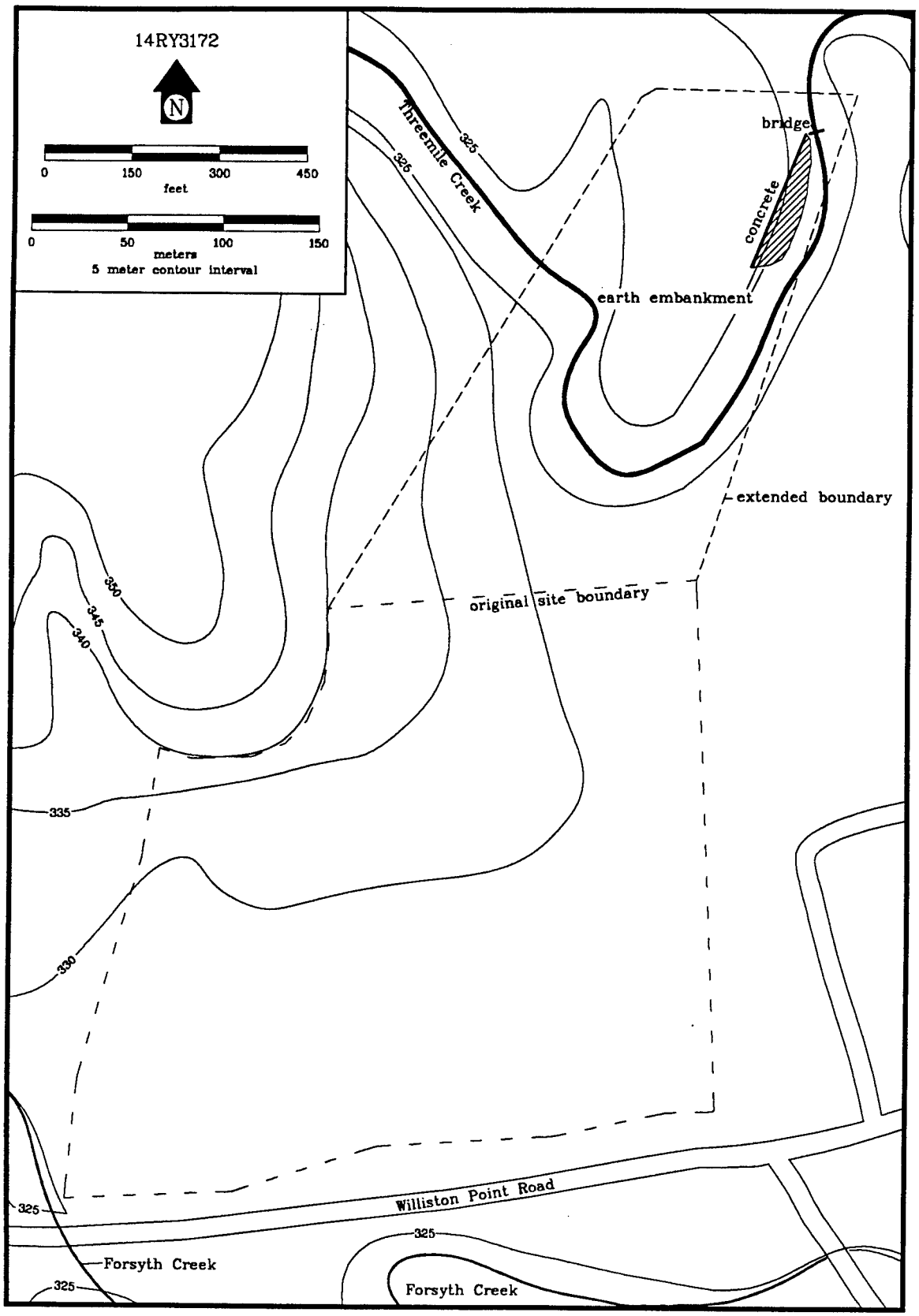

Figure 93. A map of 14RY3172.

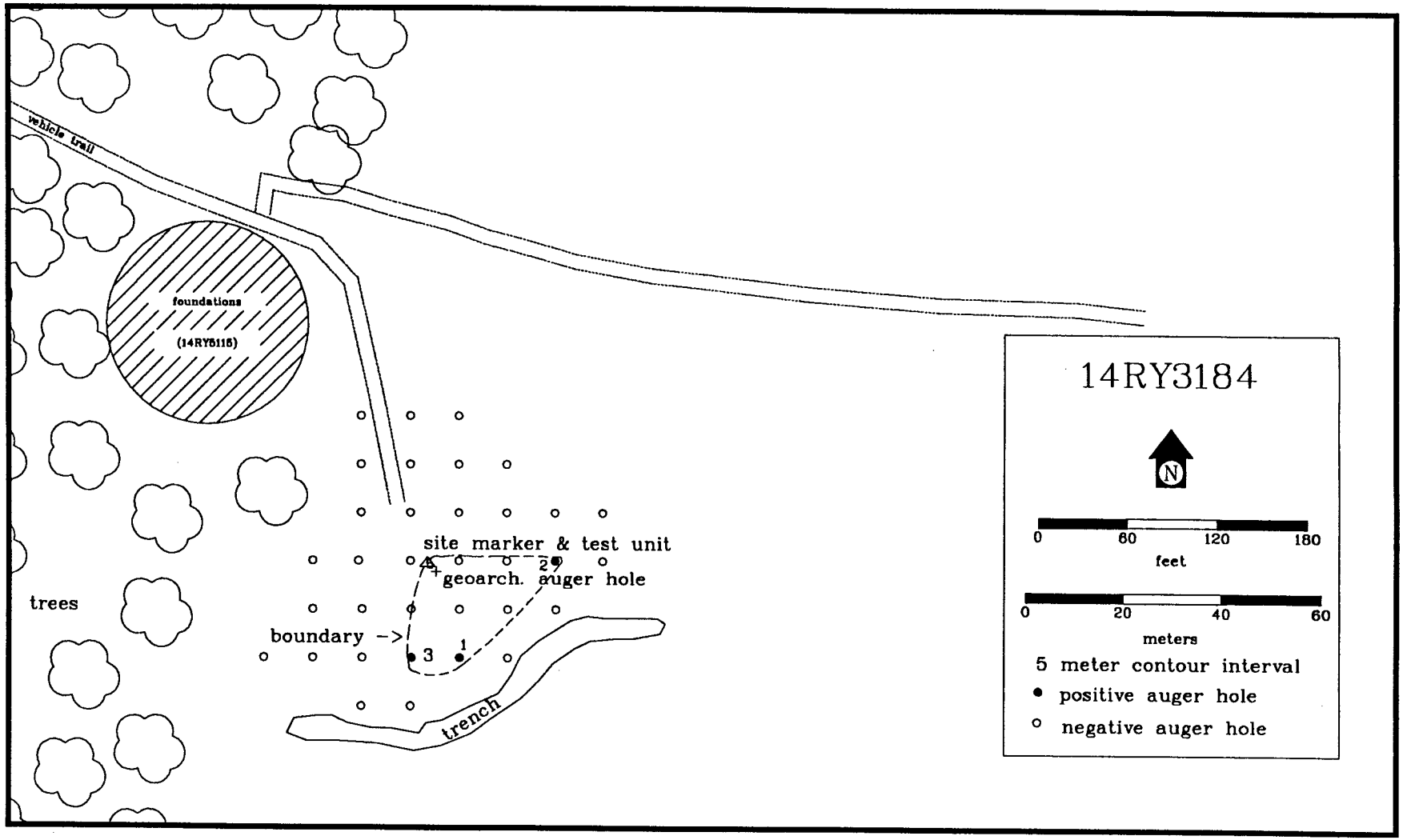

Figure 94. A map of 14RY3184.

No surface artifacts were observed at this location in 1996. Thirty-four shovel tests excavated on a 10 m grid produced Florence chert flakes from three locations. A 1-by-1 meter test unit produced three flakes and a possible flake tool from the upper 30 cm of deposits. Below 30 cm there is a light brown loess deposit that appears of be devoid of cultural material (Figure 95).

14RY3185 (Figure 96)

Site 14RY3185 was originally recorded in 1993 as part of a geoarchaeological study at Fort Riley. The original site form describes the site as containing "a surface component(s) in the Ap horizon and at least one buried component was encountered during the geoarchaeological investigation of the landform. . . .Lithic debris is common on the disturbed area."

During the 1996 investigations at 14RY3185, no surface artifacts were observed. A large portion of the flat containing the site has been disturbed by vehicle activity and blading. One flake of Florence chert was recovered from 1 of 20 shovel tests excavated at the site. Within a 1-by-1 meter test unit excavated near the positive shovel test, a relatively dense layer of cultural material (a core and 59 flakes) was encountered in the upper 10 cm of loess deposition (Figure 97).

14RY5115 (Figure 98)

This site consists of a series of poured concrete footings in a small wooded area on Sumner Hill between 14RY3184 and 14RY3185. The linear footings are arranged in four groups, each of which forms a circular pattern 48 feet in diameter. There are remnants of iron pipes and valves within the structures.

These footings are believed to be the bases of tanks that supplied water to Camp Funston, a World War I training area in the valley bottoms immediately to the south of the site. Most of the buildings and fixtures at Funston were sold to the public and dismantled during the 1920s (Pride 1929:284-285). A new set of temporary buildings was erected at Camp Funston during World War II (O'Brien 1989:18).

It is unknown exactly how long the water tanks at 14RY5115 were in use or when they were dismantled. A 1919 map attached to Pride's (1926) *The History of Fort Riley* does not show any water tanks on Sumner Hill. It is therefore possible that they are related to the World War II, rather than the World War I, use of Camp Funston.

14RY5155 (Figure 99)

This site consists of a scatter of chipped stone flaking debris and tools in an area that has recently been cleared of the top 10 to 30 cm of top soil. The clearing appears to have been done with a maintainer or belly loader and much of the stripped top soil is still present in piles north of the site area.

The site location is on a terrace just to the northwest of the confluence of Deep Canyon Creek with Threemile Creek. Prior to stripping, the site area was probably covered by a combination of prairie grasses, brush, and small trees.

Thirty-two shovel tests excavated on a five meter grid south of the cleared area did not produce any cultural materials. The entire site therefore appears to be well defined by the distribution of surface artifacts and is entirely within the area of disturbance.

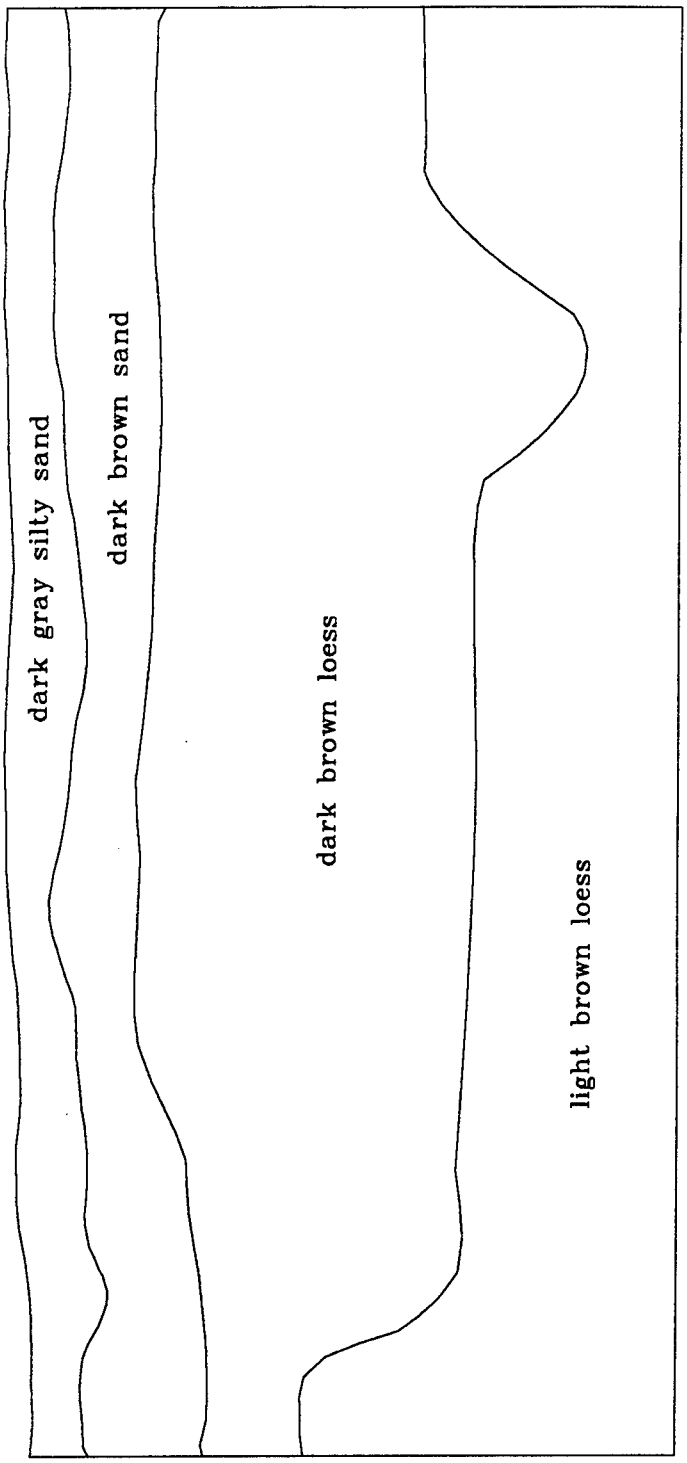

Figure 95. A drawing of the north wall profile from the test unit at 14RY3184.

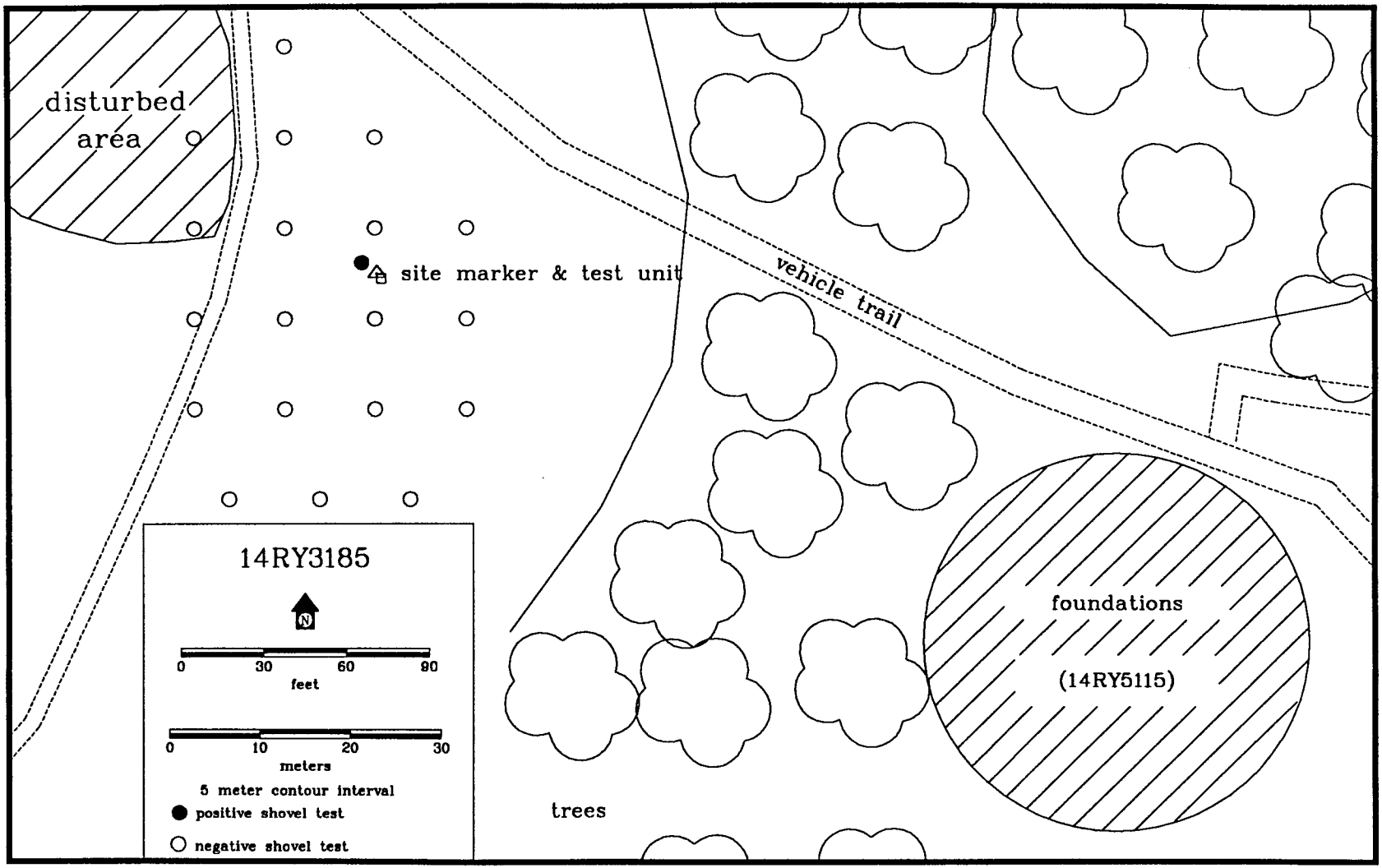

Figure 96. A map of 14RY3185.

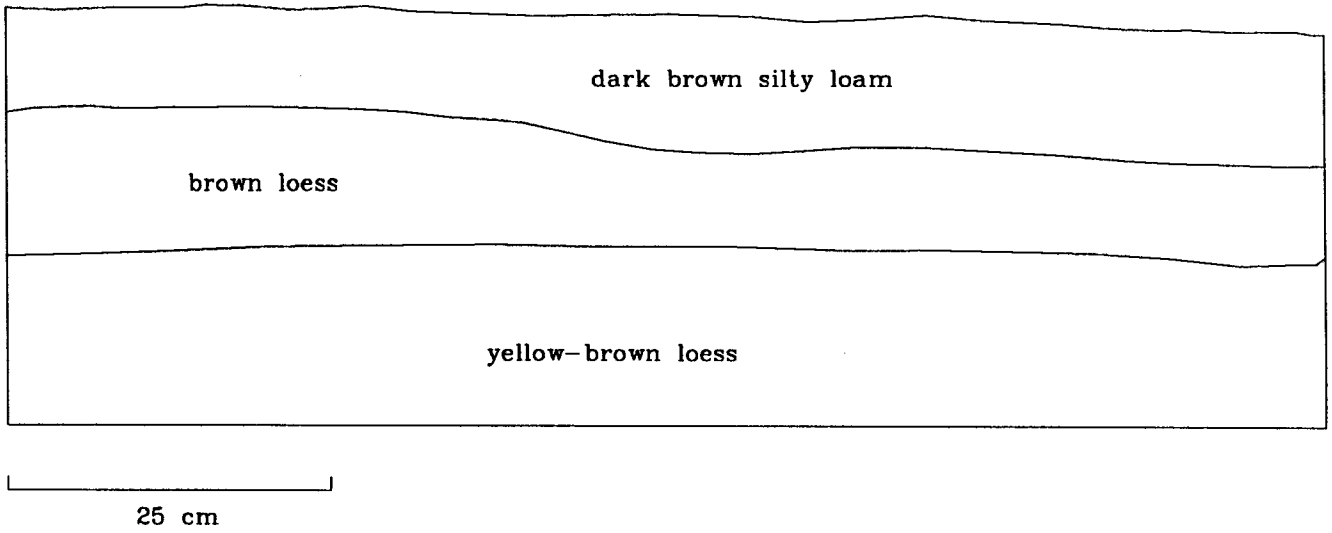

Figure 97. A drawing of the north wall profile from the test unit at 14RY3185.

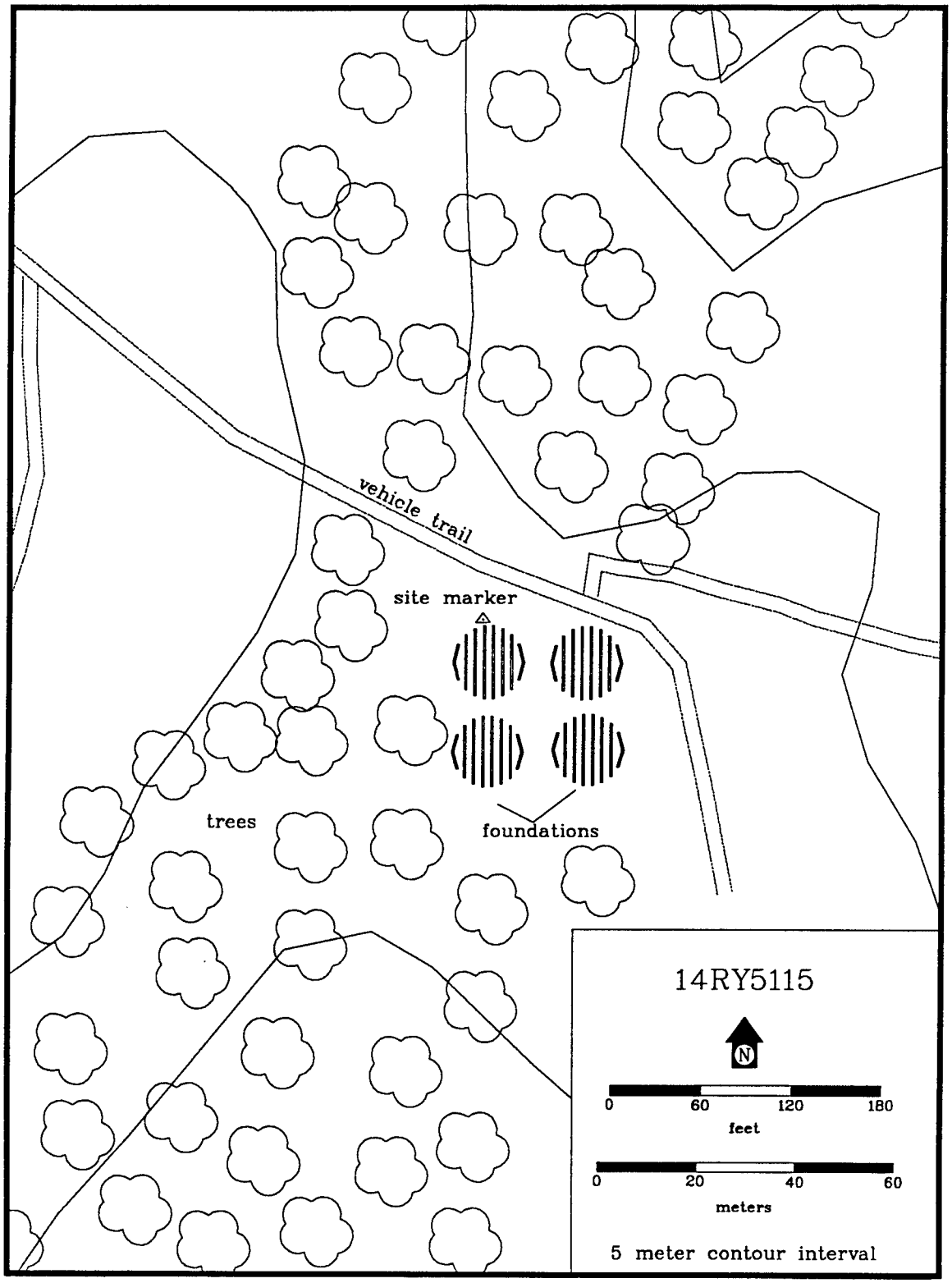

Figure 98. A map of 14RY5115.

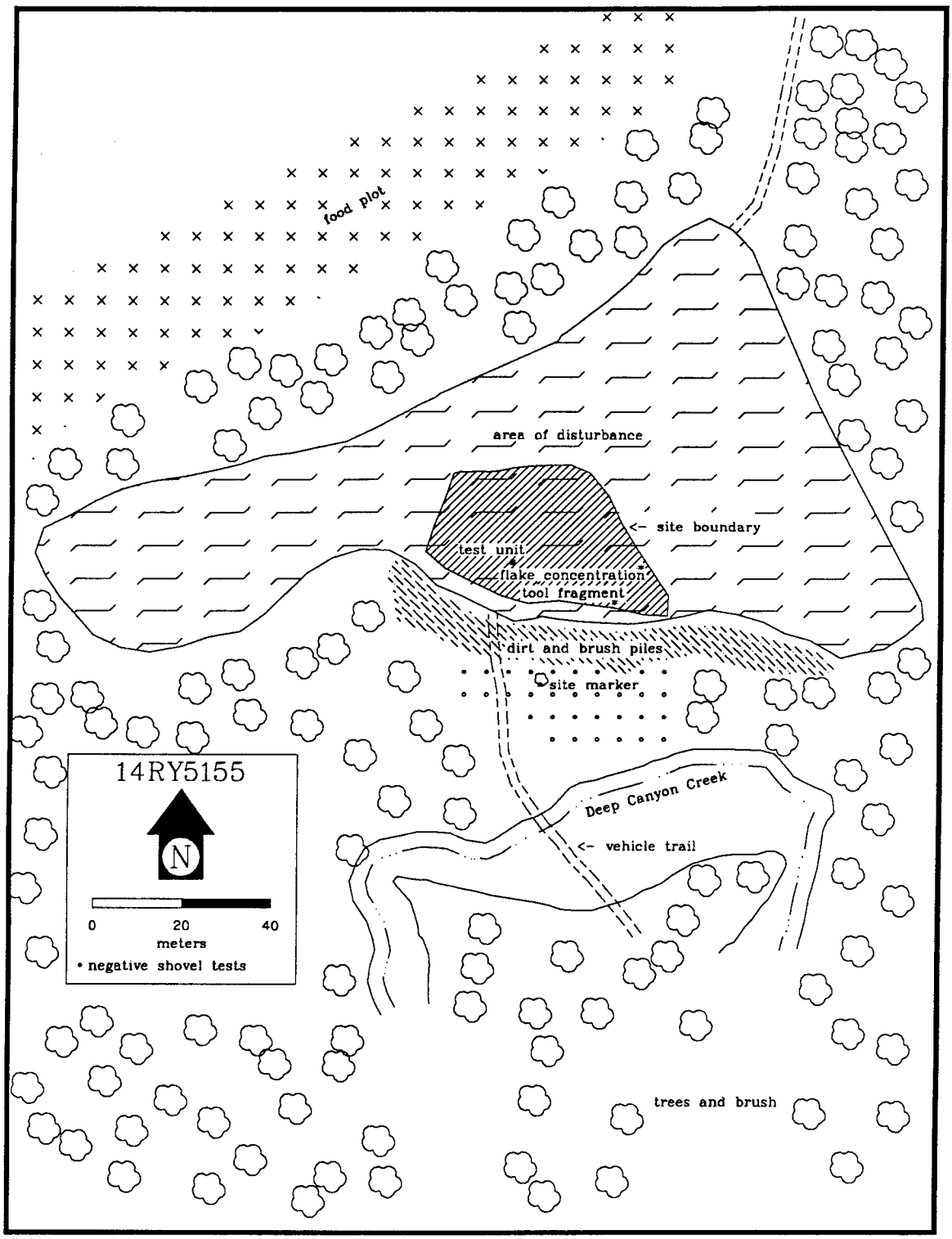

Figure 99. A map of 14RY5155.

Surface artifacts observed on the site include interior flakes, flakes with cortex, core fragments, and at least one flake tool fragment (Figure 100a). All of the lithics are from Florence chert. Two flake concentrations were observed, each approximately one meter in diameter and containing ca. 10 to 15 large and small flakes. No bone or fire-cracked rock was observed.

A 1-by-1 meter test unit was placed over the westernmost flake concentration. The upper three centimeters of the test unit appeared disturbed from the blading activities, but below this the matrix appears to be relatively undisturbed except for some deformation caused by equipment tires. Although a cultural level was not visibly distinguishable from the rest of the upper brown silty deposits, a band of flaking debris was encountered approximately 10 to 15 cm below the bladed surface (Figure 101). Approximately 20 cm below the surface, the brown silty loam changes to a reddish-brown clay. This stratum does not appear to contain artifacts. Testing was discontinued at 30 cm.

The results from the one test unit excavated at 14RY5155 indicate the possible presence of a relatively undisturbed cultural level from 10 to 15 cm below the bladed surface. Although datable features were not encountered during the testing, these certainly could be present within the site area.

14RY5156 (Figure 102)

This isolated find consists of a flake of Florence chert found in a shovel test near the banks of one of the upper branches of Threemile Creek. Seven shovel tests on a five meter grid around the location of the flake did not produce any additional cultural material. The matrix encountered in the shovel tests is a coarse sandy material and the flake was likely washed in from some upstream location.

14RY5157 (Figure 103)

This is a large site on the left bank of Threemile Creek. Although no artifacts were observed on the surface, 53 of 186 shovel tests excavated on a 10 m grid produced both historic and prehistoric artifacts. Prehistoric materials recovered from the shovel testing include flaking debris, cores, a biface (Figure 100b), an end scraper (Figure 100c), a flake tool, and a smoothed body sherd. Historic items include glass, metal and china fragments.

A 1-by-1 meter test unit excavated near the south end of 14RY5157 encountered both historic and prehistoric artifacts to a depth of 60 cm. Cultural materials recovered from the unit include flaking debris, an end scraper (Figure 100d), cut nails, part of a horse shoe, the handle from a pocket knife, mammal bone fragments, and fragments of glass, metal and china.

The stratigraphy and artifact assemblage from the test unit indicates that much of the cultural material in this part of the site has been displaced by flooding and redeposited. The artifacts were found in a loose sandy loam that appears to be overbank deposits (Figure 104). The historic and prehistoric artifacts are mixed together, with historic materials actually found at depths lower than the deepest prehistoric artifacts (excluding the mammal bone, ca. 20 cm). The density of the both prehistoric and historic material over the site area suggests that artifacts may not have been transported any great distances and that intact deposits may exist within the boundaries of the site.

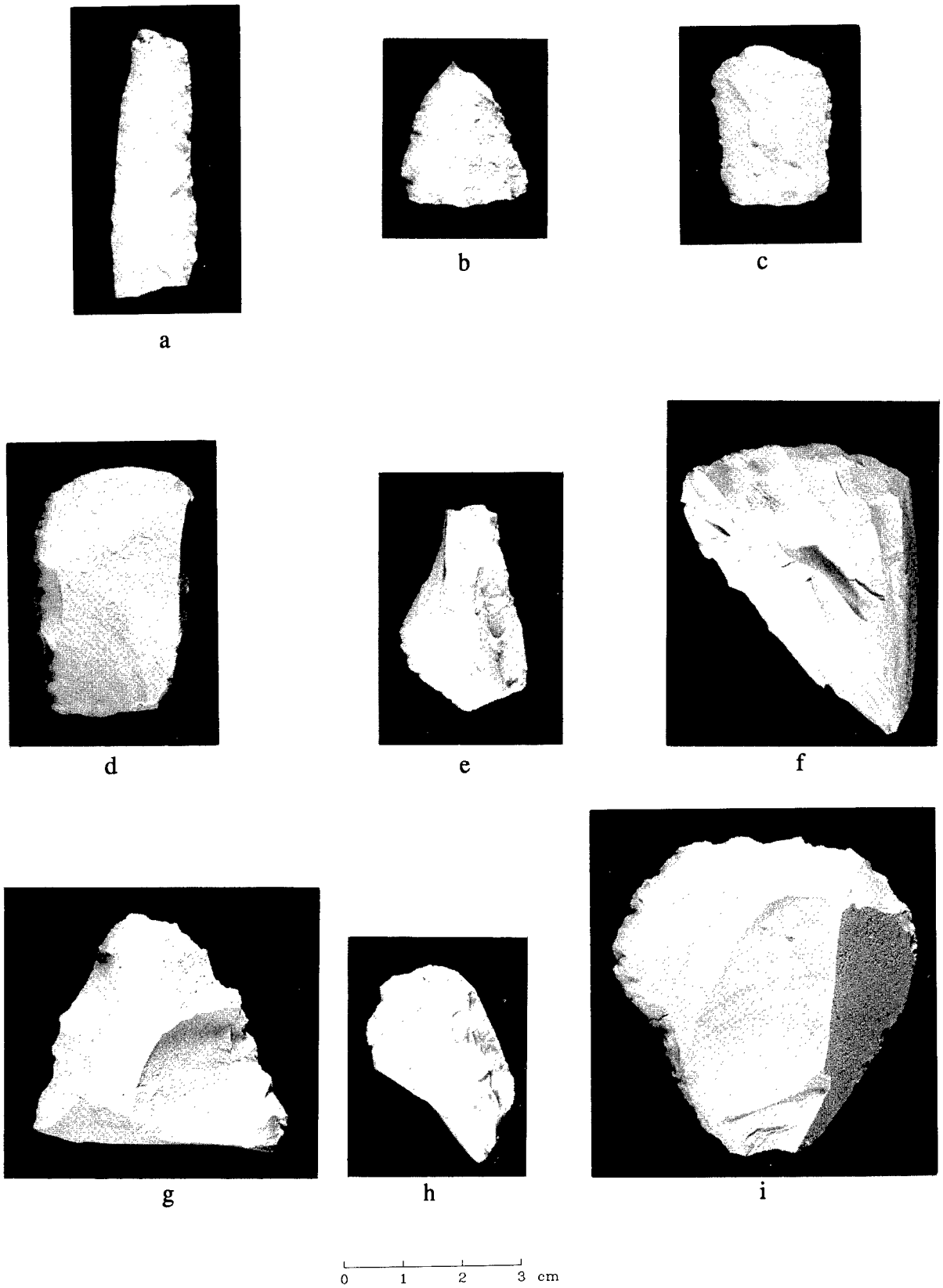

Figure 100. Artifacts from 14RY5155 (a), 14RY5157 (b - d), 14RY5159 (e - g), 14RY5162 (h) and 14RY5163 (i). Respective catalog numbers: 14RY5155-1, 14RY5157-8, 14RY5157-28, 14RY5157-84, 14RY5159-1, 14RY5159-2, 14RY5159-8, 14RY5162-7, and 14RY5163-1.

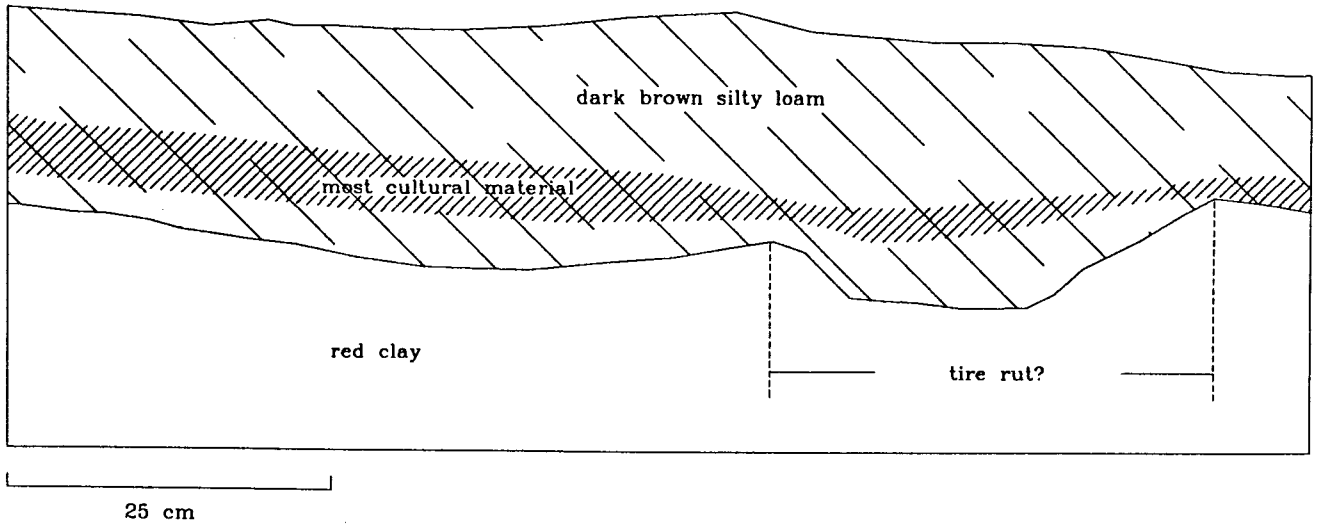

Figure 101. A drawing of the north wall profile from the test unit at 14RY5155.

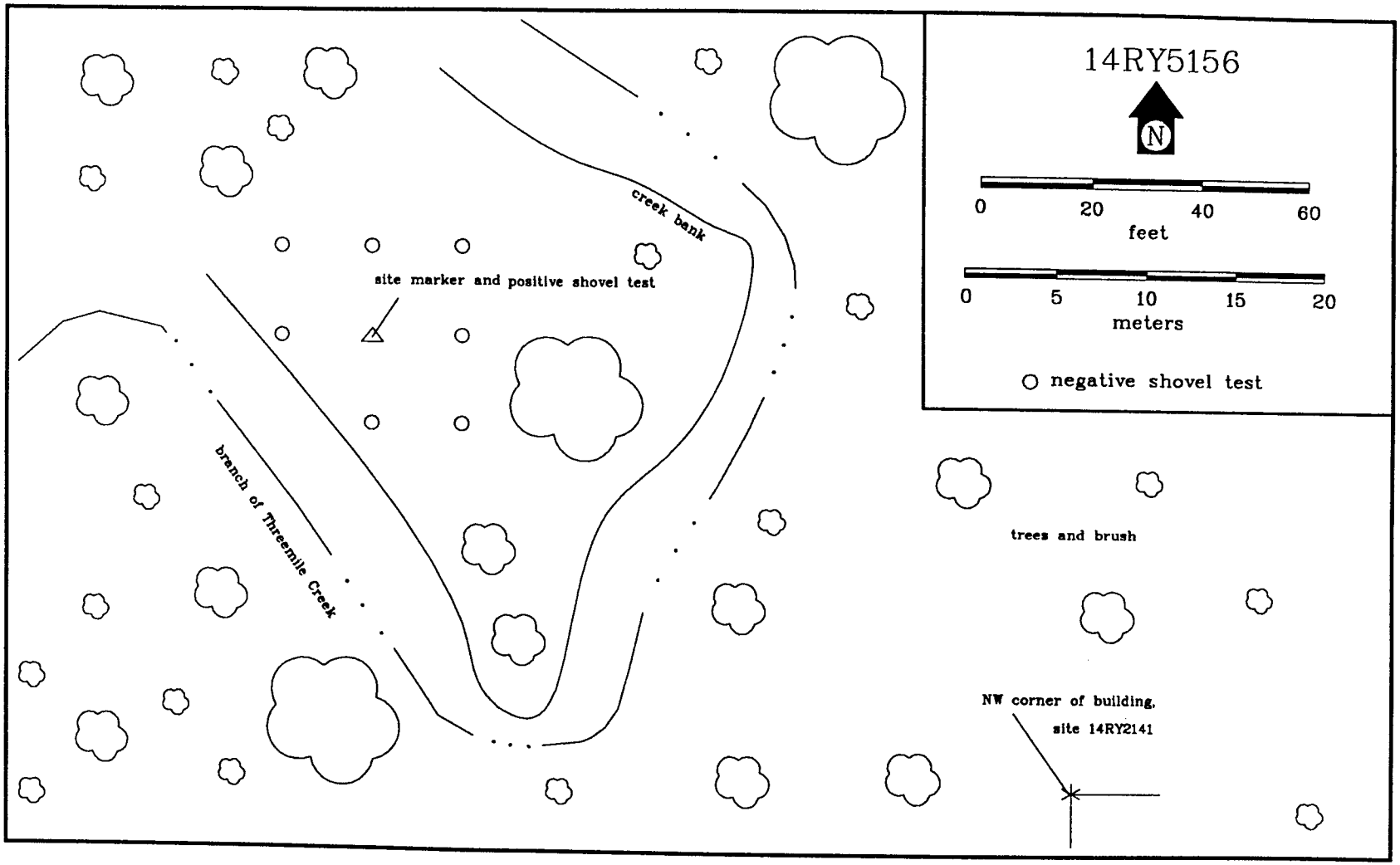

Figure 102. A map of 14RY5156.

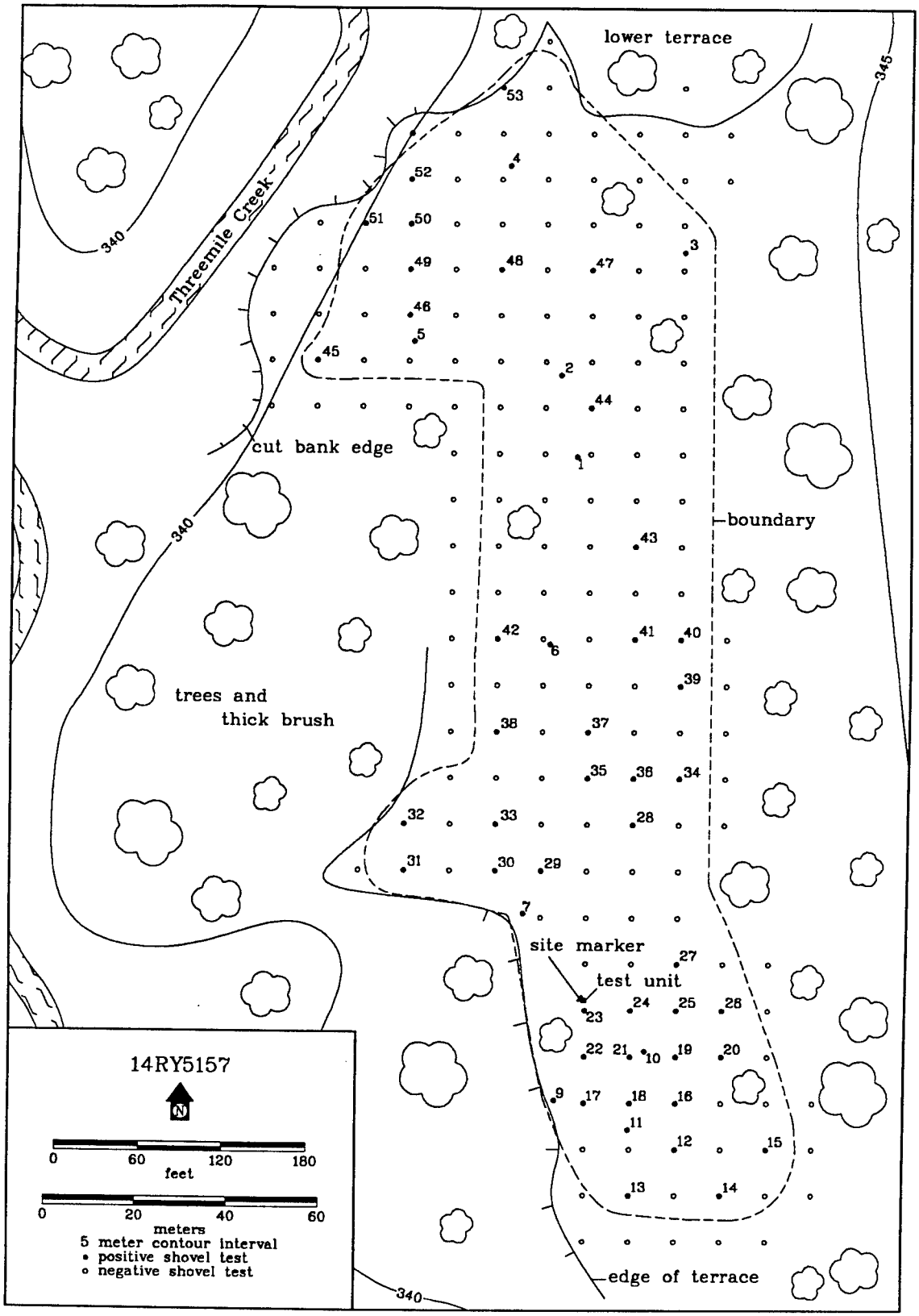

Figure 103. A map of 14RY5157.

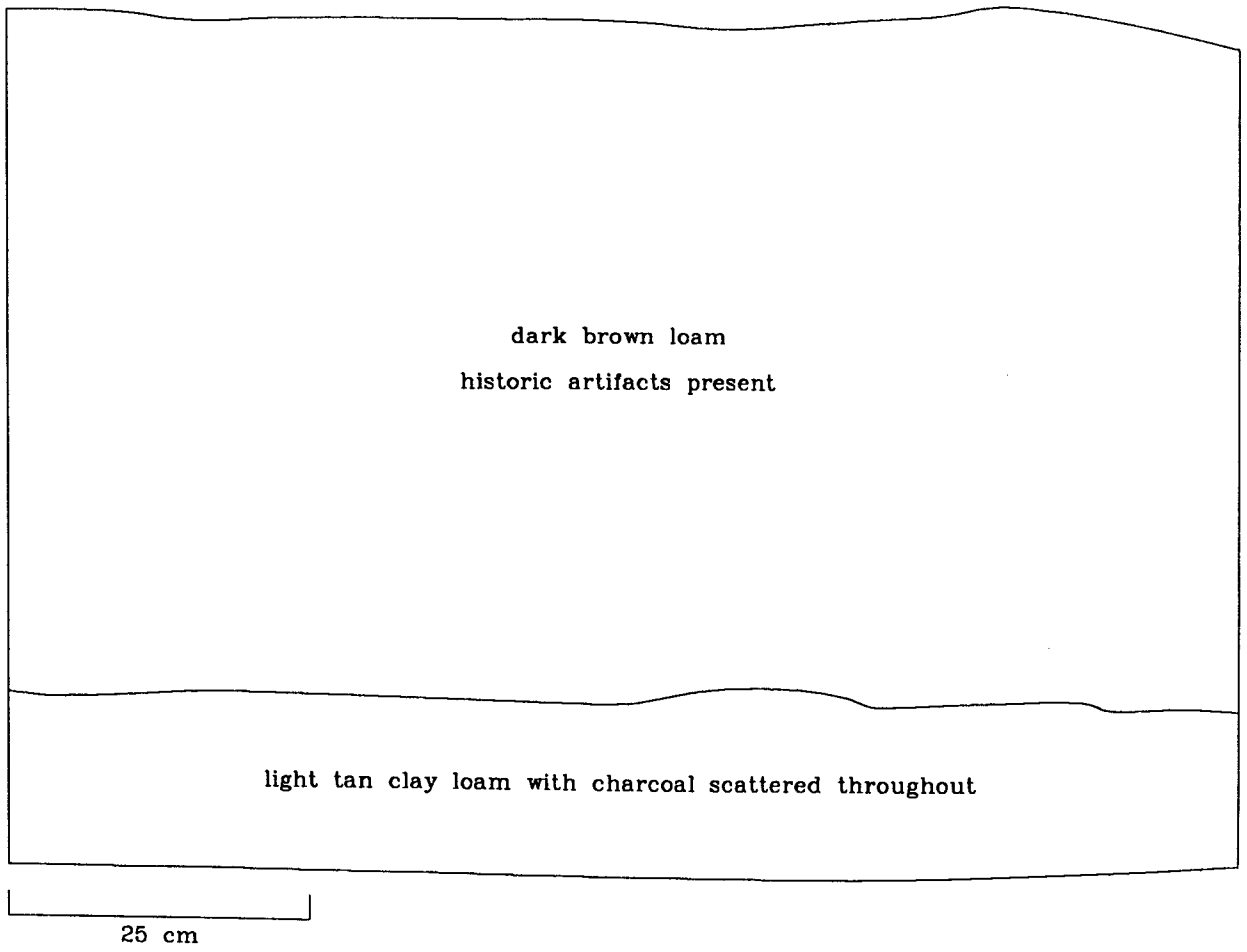

Figure 104. A drawing of the north wall profile from the test unit at 14RY5157.

14RY5158 (Figure 105)

This site consists of a thin surface scatter of flakes within and surrounding a vehicle trail. All lithics appear to be from Florence chert. Two lines of shovel test transects were excavated on either side of the trail. The tests were spaced 10 m apart. No cultural material was recovered.

A 1-by-1 meter test unit was excavated south of the trail to a depth of 20 cm. No cultural material was encountered in a matrix composed mainly of compacted clay (Figure 106).

14RY5159 (Figure 107)

This site consists of lithic tools and flaking debris on a ridge top divide between Threemile Creek and an unnamed tributary entering from the northeast. A drill fragment (Figure 100e), a biface fragment (Figure 100f) and approximately 40 Florence chert flakes were noted on the surface of the site. Eleven of 54 shovel tests excavated on a 10 m grid also produced flakes and a biface fragment (Figure 100g). A 1-by-1 m test unit excavated in the north central part of the site produced 38 flakes and 2 core fragments from the upper 10 cm. Below approximately 10 cm, a compacted, reddish brown clay matrix was encountered that contained no cultural material (Figure 108).

14RY5160 (Figure 109)

This site produced flakes and a core fragment from 4 of 30 shovel tests excavated on a 10 meter grid. The site is in a brushy area east of the head of a tributary of Threemile Creek.

A 1-by-1 meter test unit near the center of the site recovered two flakes from the upper 10 cm and one flake from the 10 to 20 cm level. The artifacts came from a zone of sandy soil that rests on clay deposits (Figure 110).

14RY5161 (Figure 111)

This isolated find consists of a flake of Florence chert found in a shovel test. The location is at the end of a ridge that forms the divide between Threemile Creek and an unnamed tributary entering from the northeast. Eight additional shovel tests on a five meter grid around the location did not recover any additional artifacts.

14RY5162 (Figure 112)

This site is a quarry area for Florence chert. Flakes, cores and a biface fragment (Figure 100h) were found in 25 of 63 shovel tests excavated on a gentle, southeast facing hill slope. A 1-by-1 meter test unit excavated near the northwest corner of the site produced over 100 pieces of chert debitage and cores in the upper 20 cm. These materials were found in the modern top soil and a red clay deposit below it (Figure 113). The clay ends at the contact with a stratum of fractured limestone bedrock. The quarrying activities appear to have been aimed at obtaining chert from seams of the material present within the limestone. Due to the thin overlying matrix, acquiring the chert may have involved very little actual digging; much of the material may simply have been picked up on the surface.

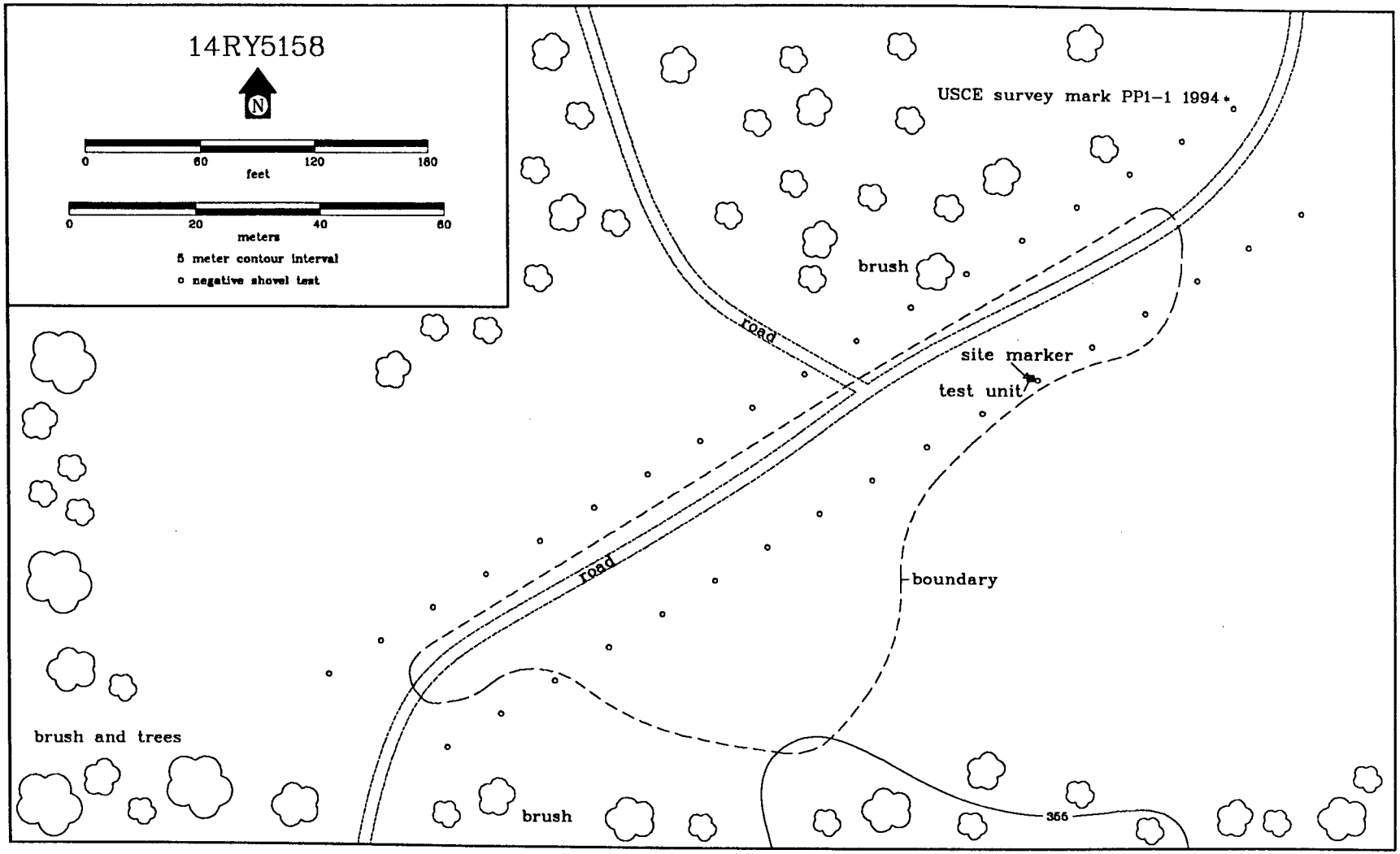

Figure 105. A map of 14RY5158.

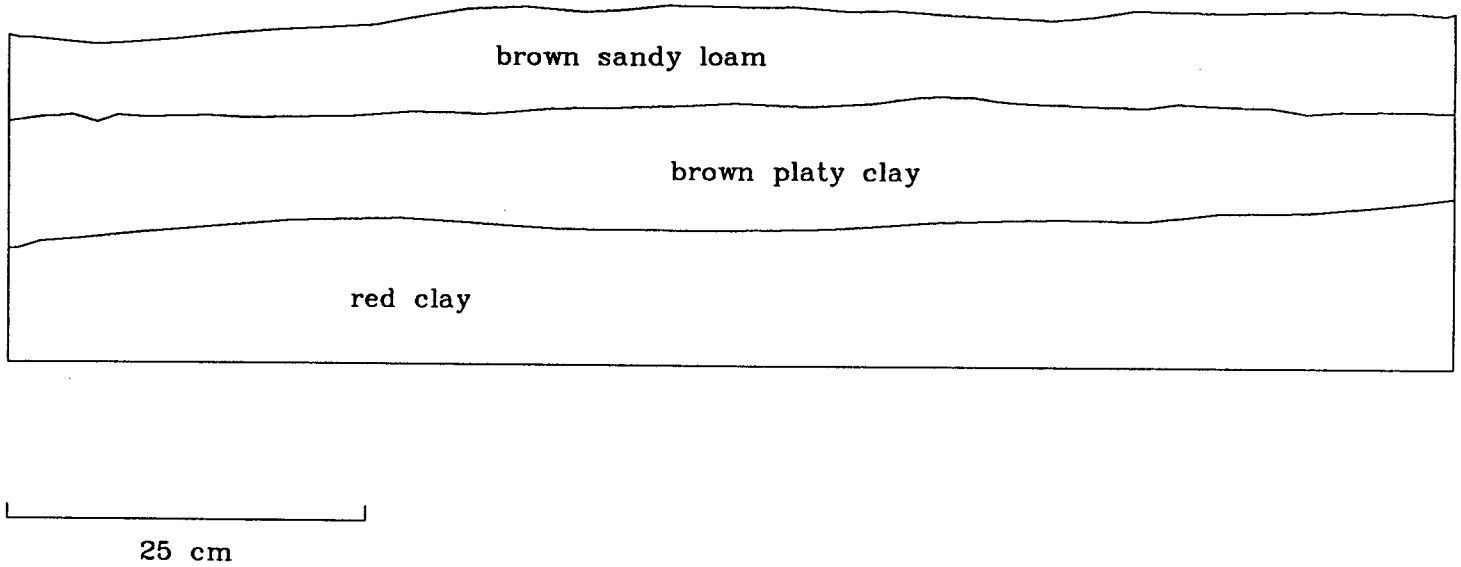

Figure 106. A drawing of the north wall profile from the test unit at 14RY5158.

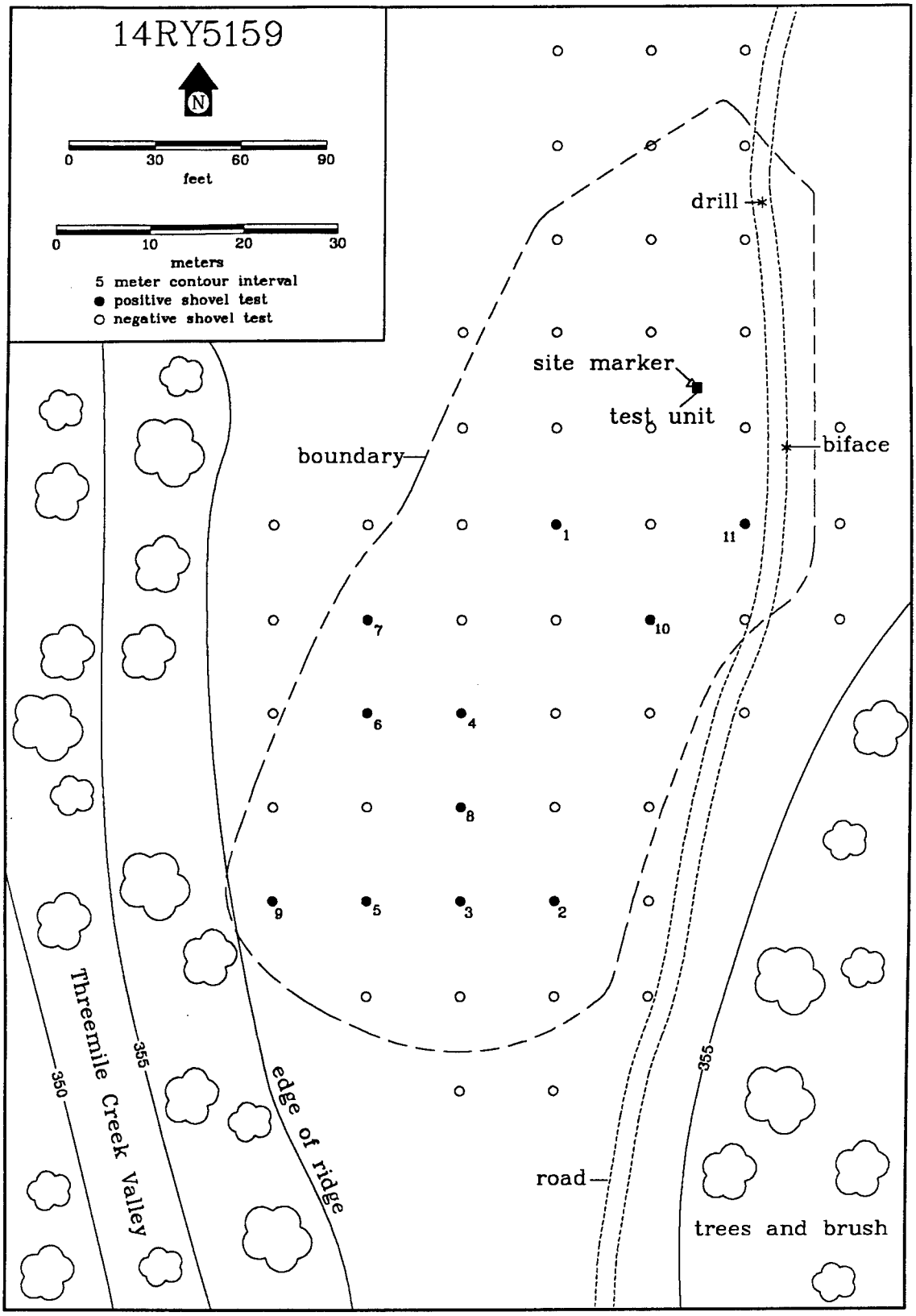

Figure 107. A map of 14RY5159.

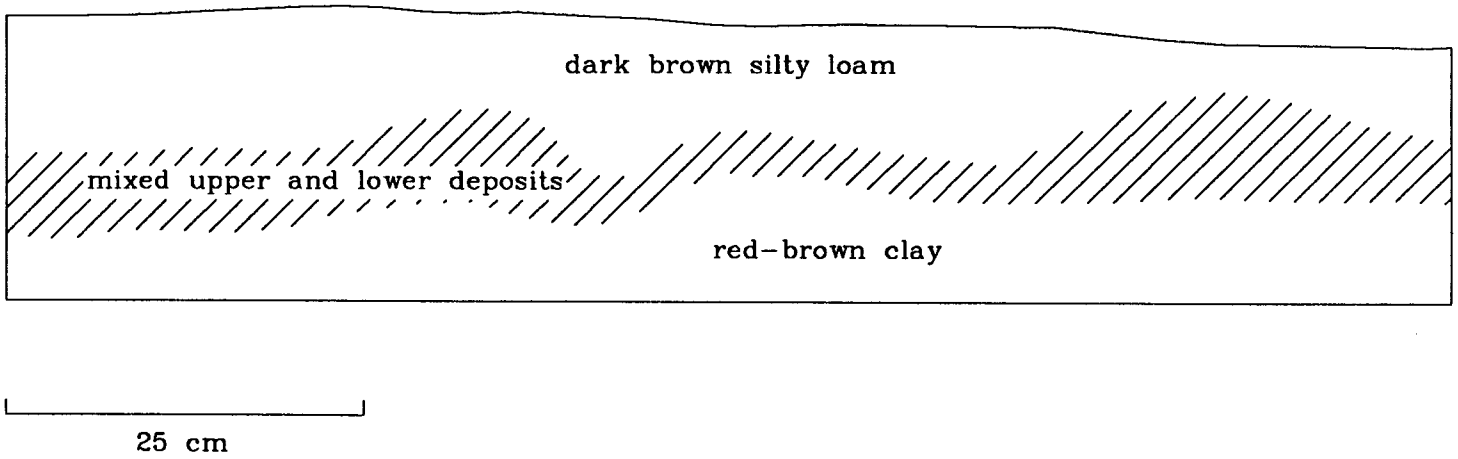

Figure 108. A drawing of the west wall profile from the test unit at 14RY5159.

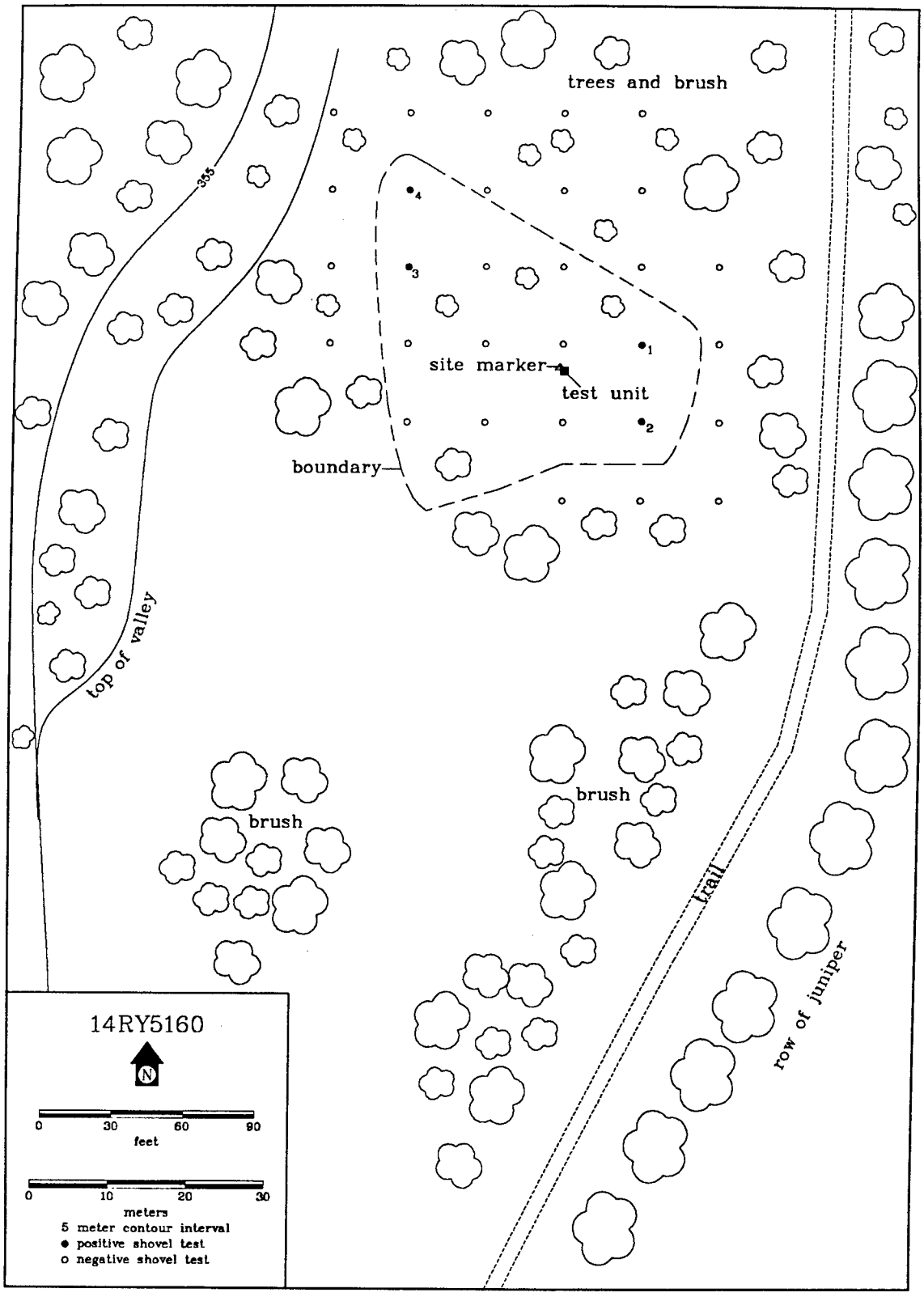

Figure 109. A map of 14RY5160.

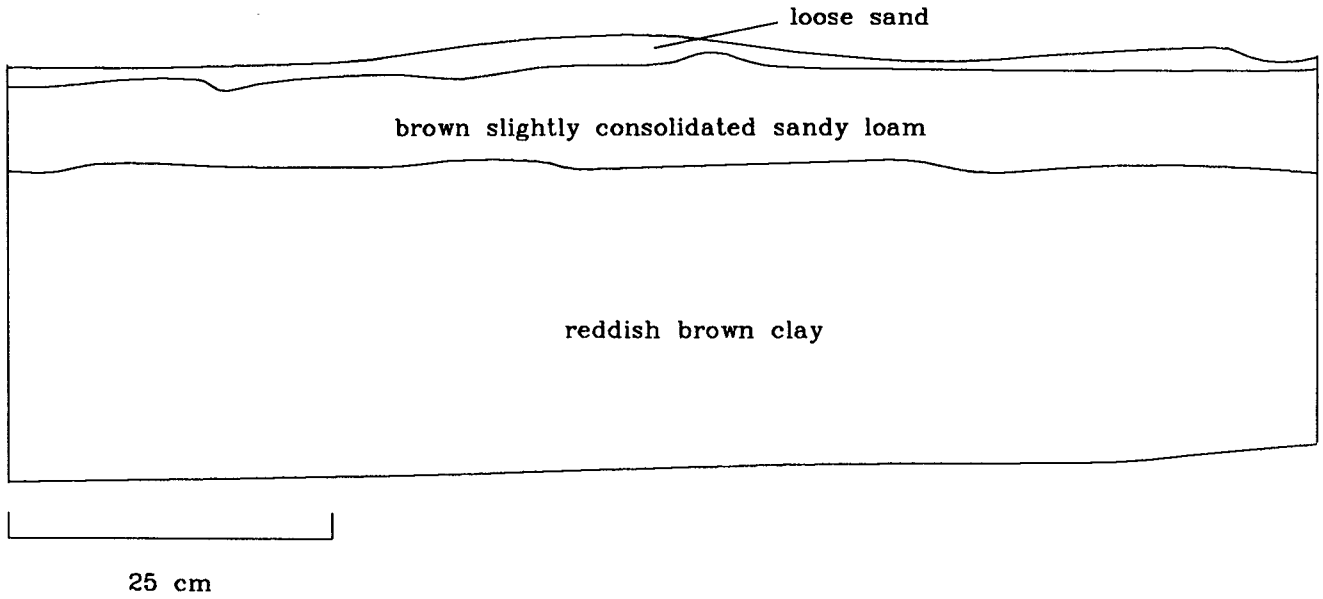

Figure 110. A drawing of the east wall profile from the test unit at 14RY5160.

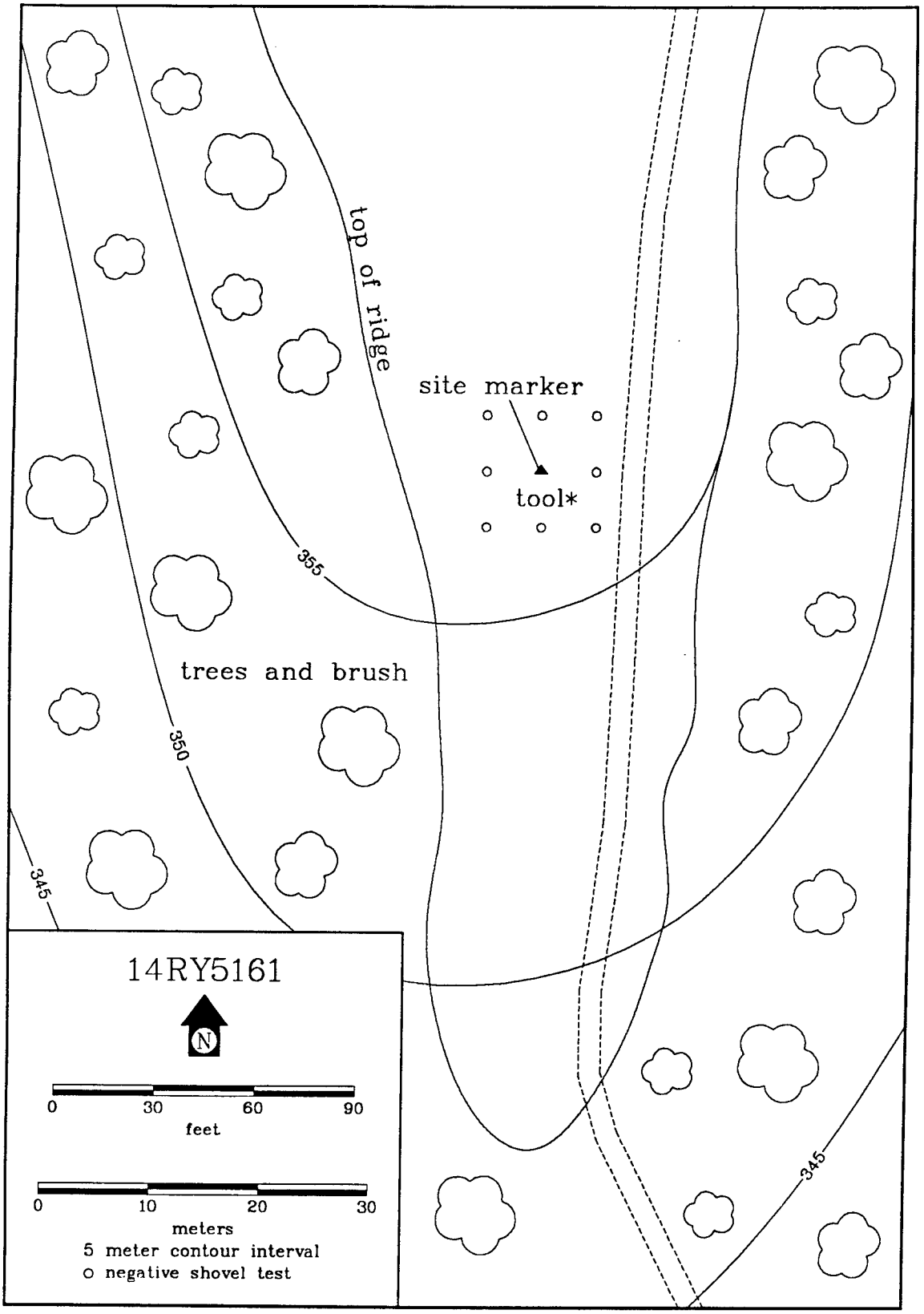

Figure 111. A map of 14RY5161.

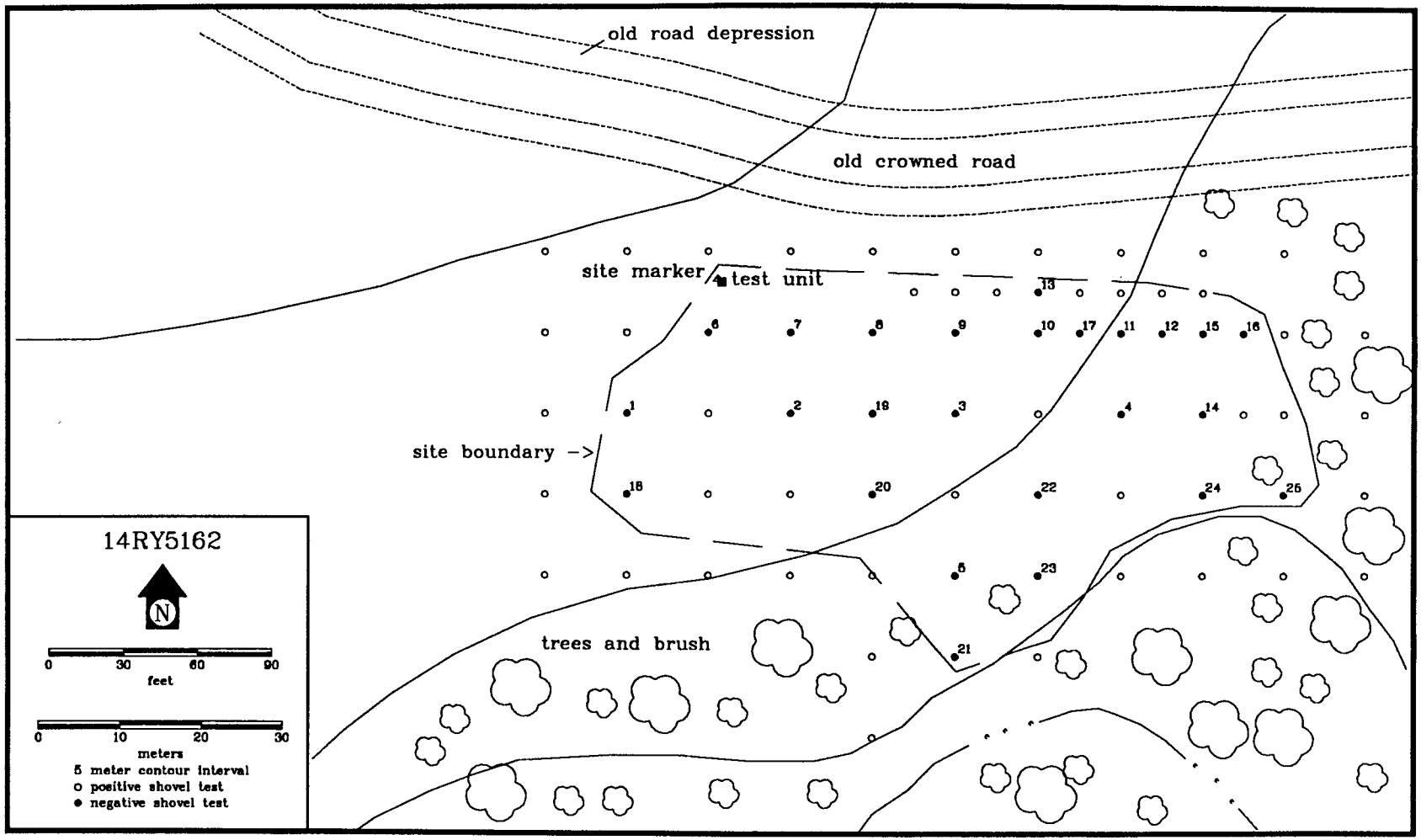

Figure 112. A map of 14RY5162.

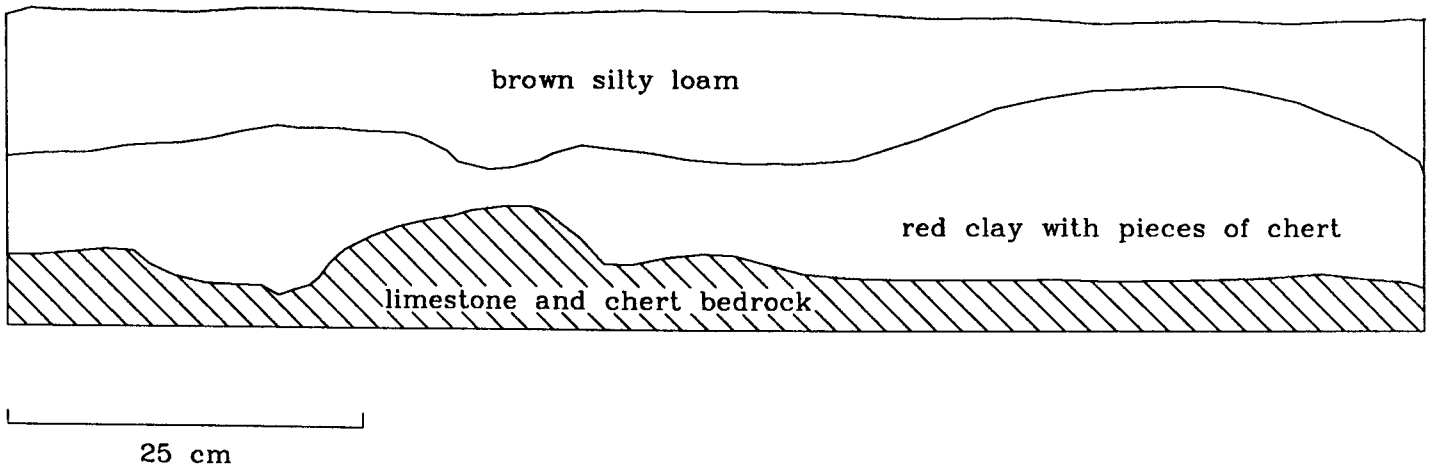

Figure 113. A drawing of the north wall profile from the test unit at 14RY5162.

14RY5163 (Figure 114)

This site was found on a prominent hill top east of a wooded draw leading into Threemile Creek. A scatter of debitage, two flake concentrations, and an end scraper (Figure 100i) were observed on the surface within an area disturbed by blading. Shovel tests excavated around the southern and western edges of the blading recovered one flake along the southern perimeter. The 1-by-1 meter test unit excavated in undisturbed sod south of the disturbed area produced 161 flakes in the upper 10 cm and 13 flakes in the 10 to 20 cm level. Below approximately 20 cm, a culturally sterile red clay was encountered (Figure 115).

14RY5164 (Figure 116)

This isolated find is a biface of Florence chert (Figure 117a) found on the surface of a grassy flat. Eight shovel tests excavated on a five meter grid around the location of the biface did not produce any subsurface artifacts.

14RY5165 (Figure 118)

This isolated find is a flake of Florence chert found in a shovel test. The location is near the mouth of a wooded draw that leads into Wolf Canyon. Eight shovel tests excavated around the original location on a five meter grid did not recover any other artifacts.

14RY5166 (Figure 119)

This isolated find is an endscraper of Florence chert (Figure 117b). It was found in a shovel test in Wolf Canyon in a brushy area east of a large food plot. Eight shovel tests excavated on a five meter grid around the location of the endscraper did not recover any other artifacts.

14RY5167 (Figure 120)

This isolated find consists of three flakes of Florence chert found in three separate shovel tests. The materials were found in a wooded area adjacent to the cutbank on the south side of Threemile Creek. Eight other shovel tests excavated on a five meter grid around the locations of the flakes did not recover any other artifacts.

14RY5168 (Figure 121)

This isolated find is a biface (Figure 117c) found in a rut of a vehicle trail. The location is within a heavily wooded terrace surrounded on three sides by a large meander of Threemile Creek. Seven shovel tests excavated along a transect east of the trail did not encounter any additional artifacts.

14RY5169 (Figure 122)

This isolated find is a flake of Florence chert. The artifact was found in a shovel test near the bank of Threemile Creek at a point where a small tributary drainage enters from the northwest. Seven shovel tests excavated on a five meter grid around the location of the flake did not recover any additional artifacts.

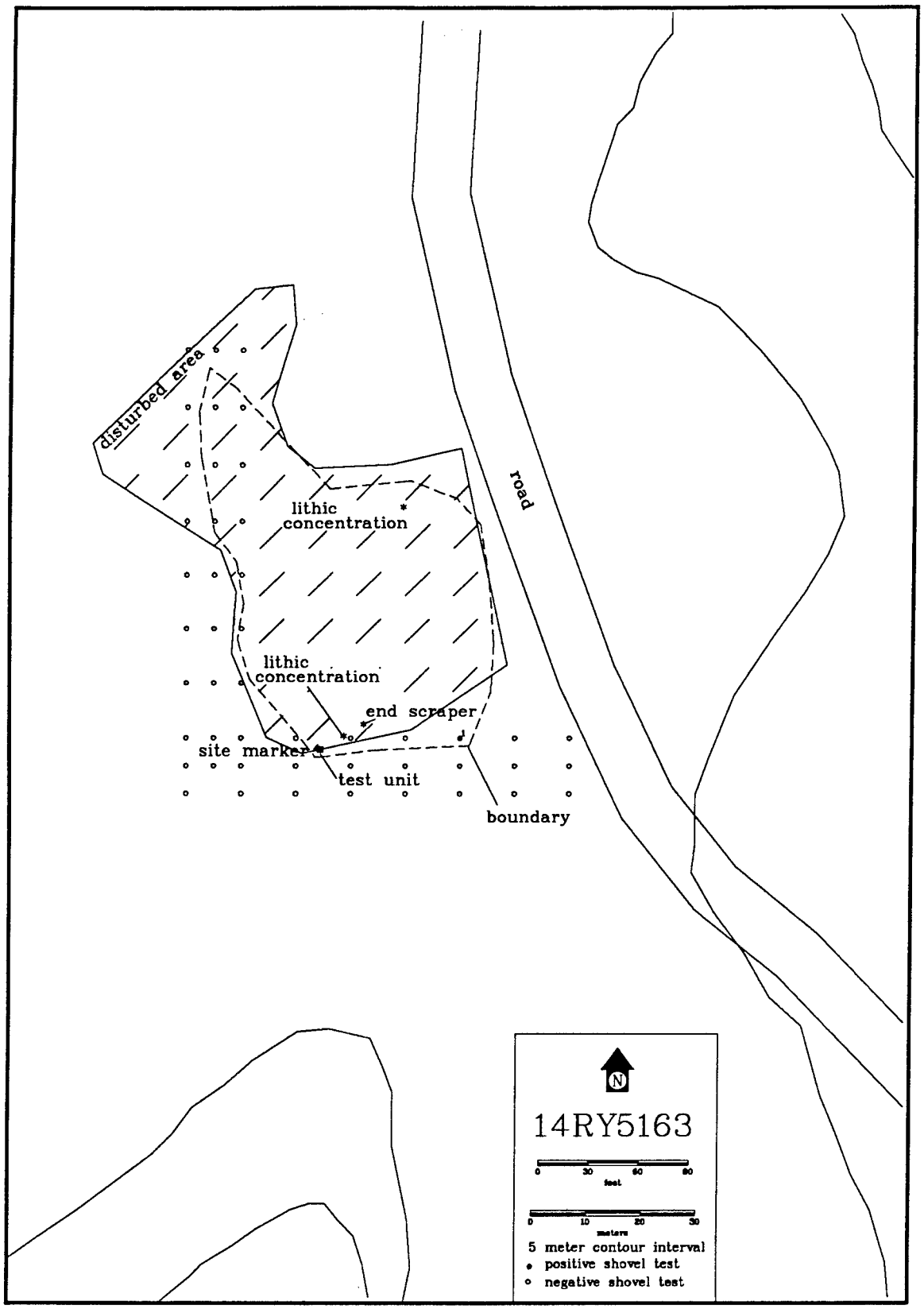

Figure 114. A map of 14RY5163.

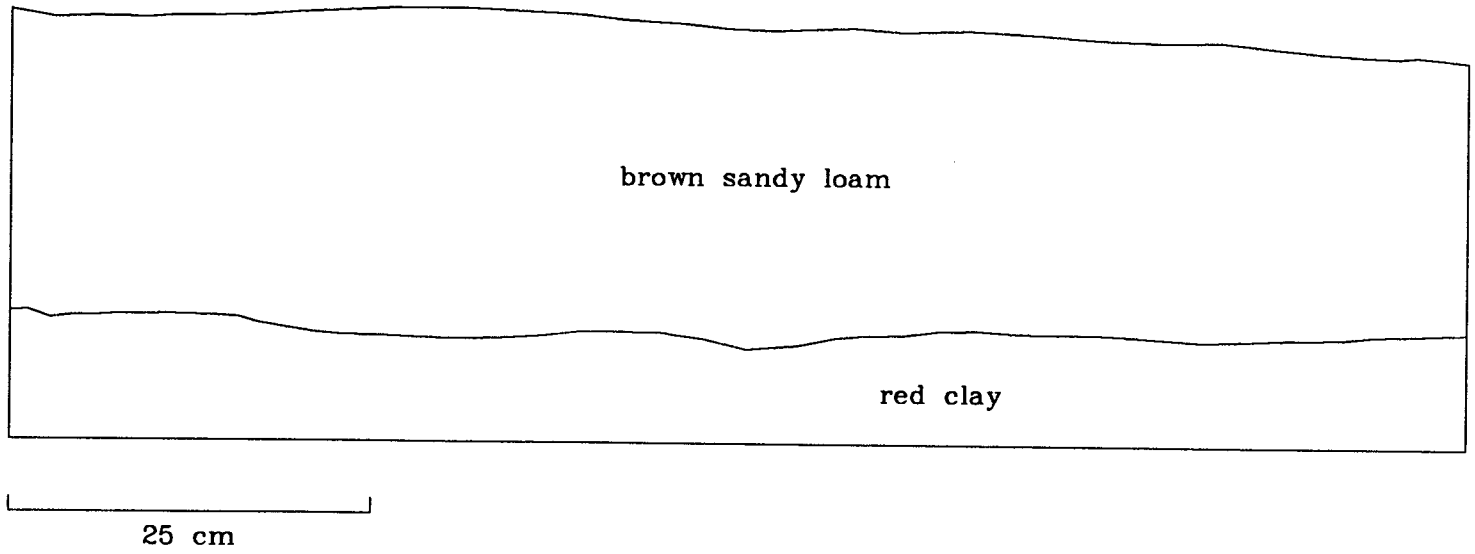

Figure 115. A drawing of the south wall profile from the test unit at 14RY5163.

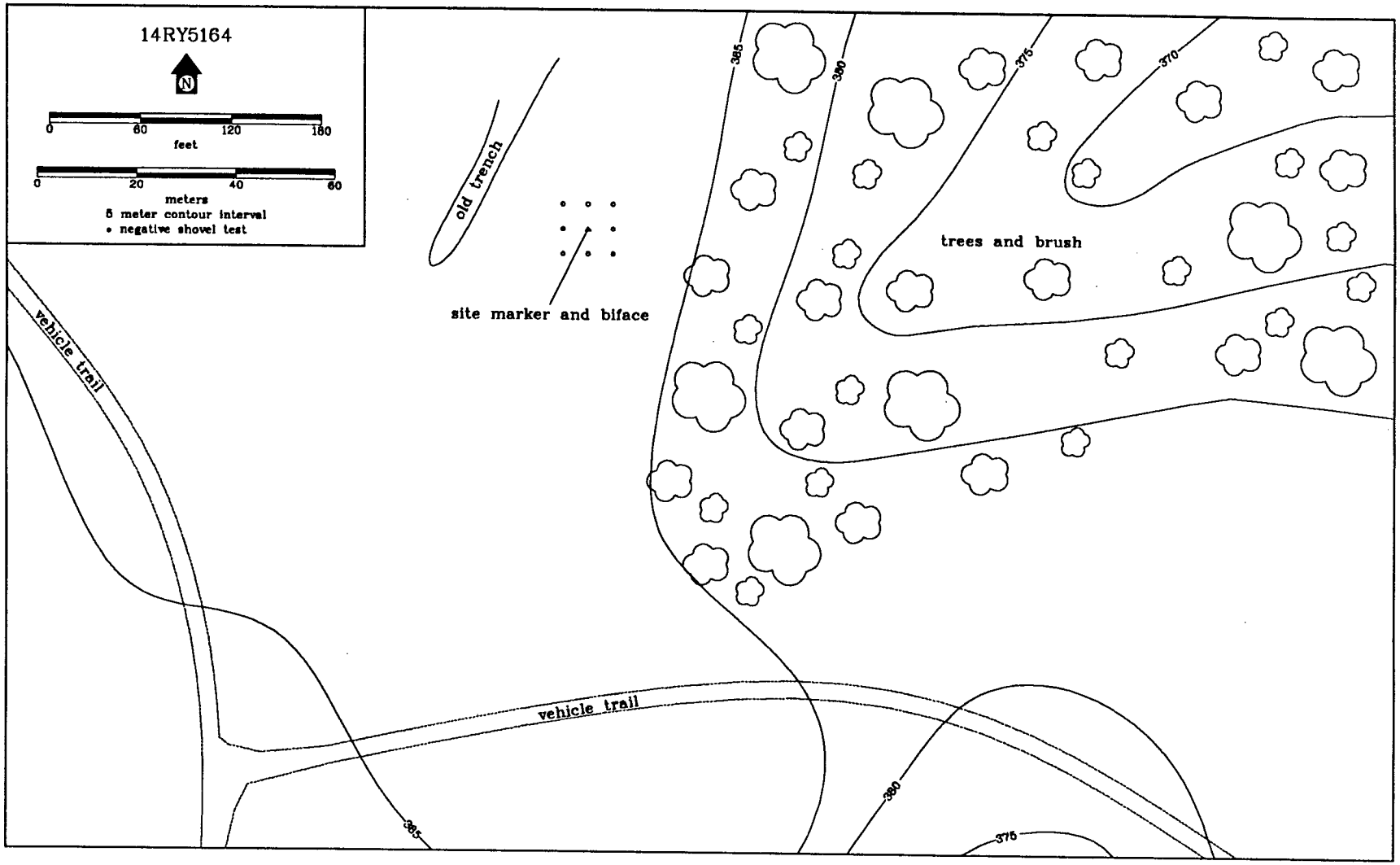

Figure 116. A map of 14RY5164.

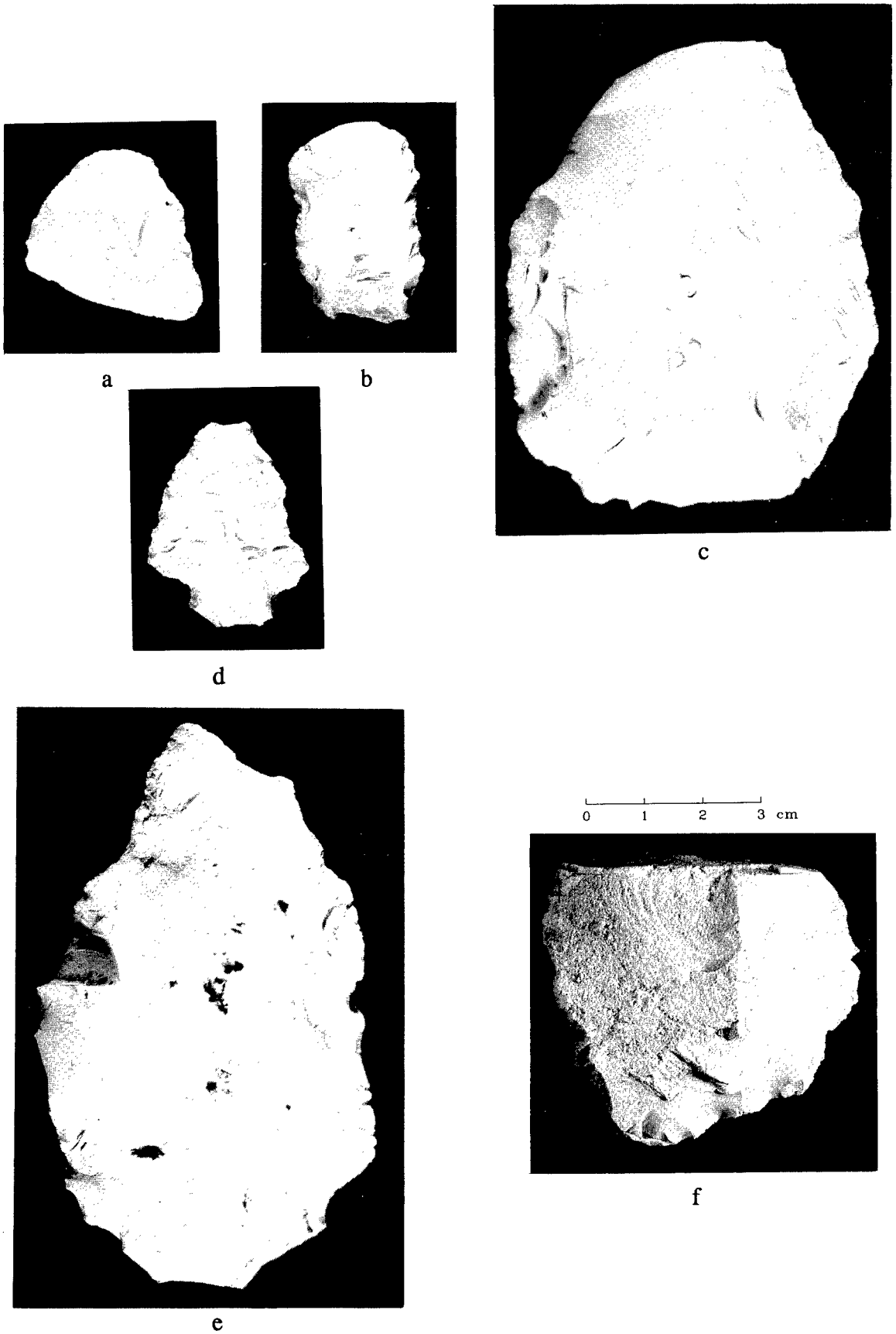

Figure 117. Artifacts from 14RY5164 (a), 14RY5166 (b), 14RY5168 (c), 14RY5173 (d) and 14RY5175 (e - f). Respective catalog numbers: 14RY5164-1, 14RY5166-1, 14RY5168-1, 14RY5173-1, 14RY5175-7, and 14RY5175-5.

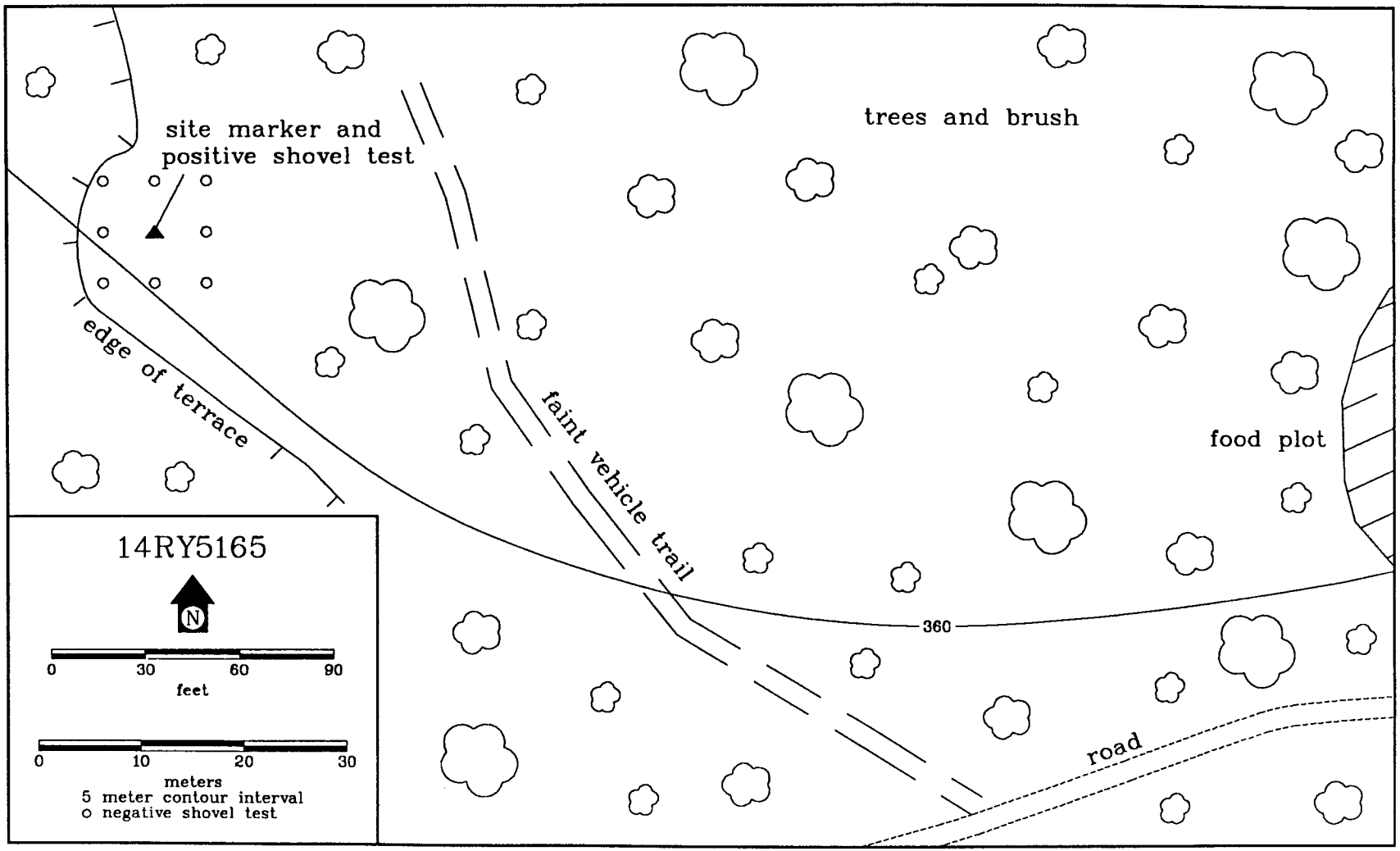

Figure 118. A map of 14RY5165.

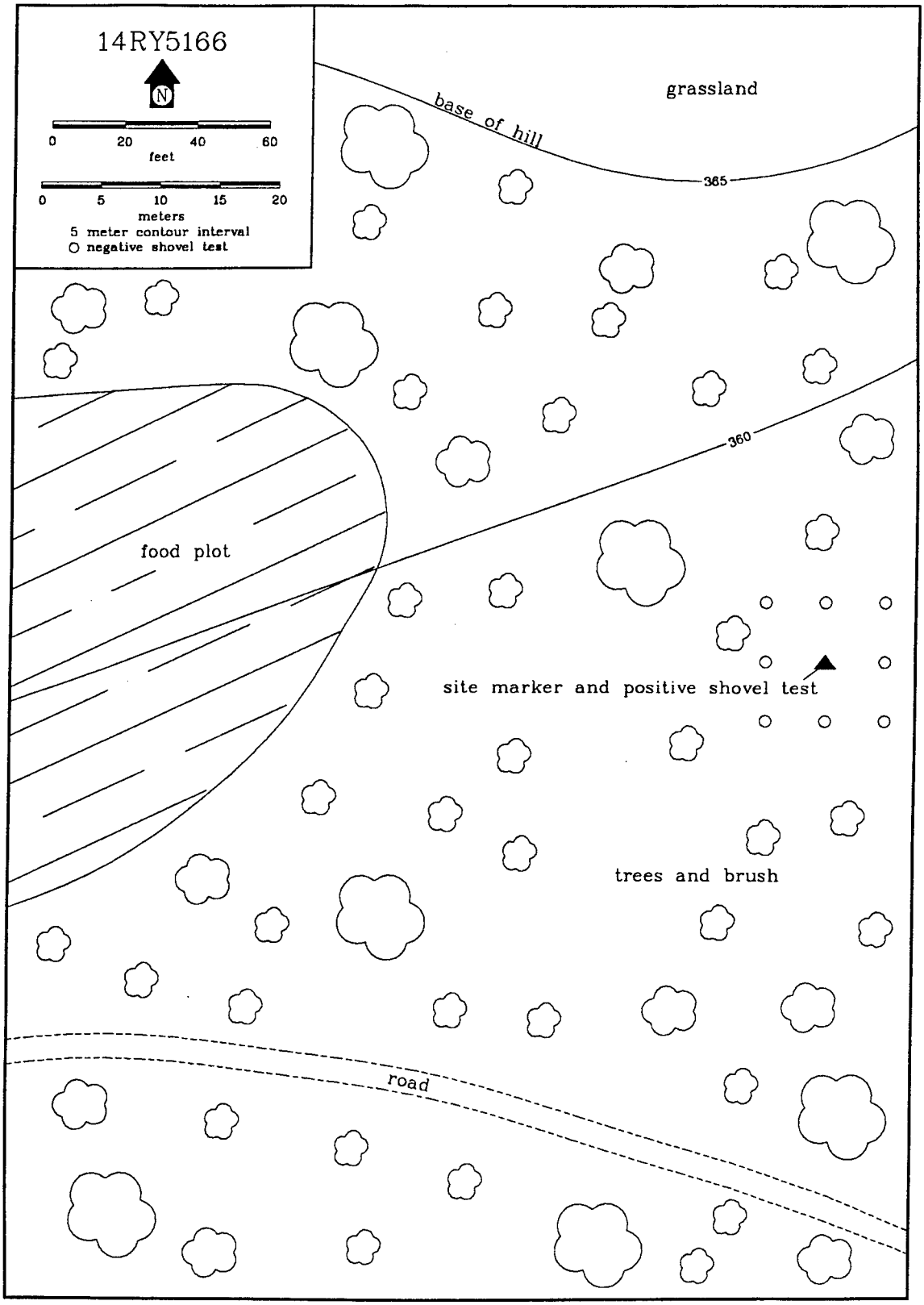

Figure 119. A map of 14RY5166.

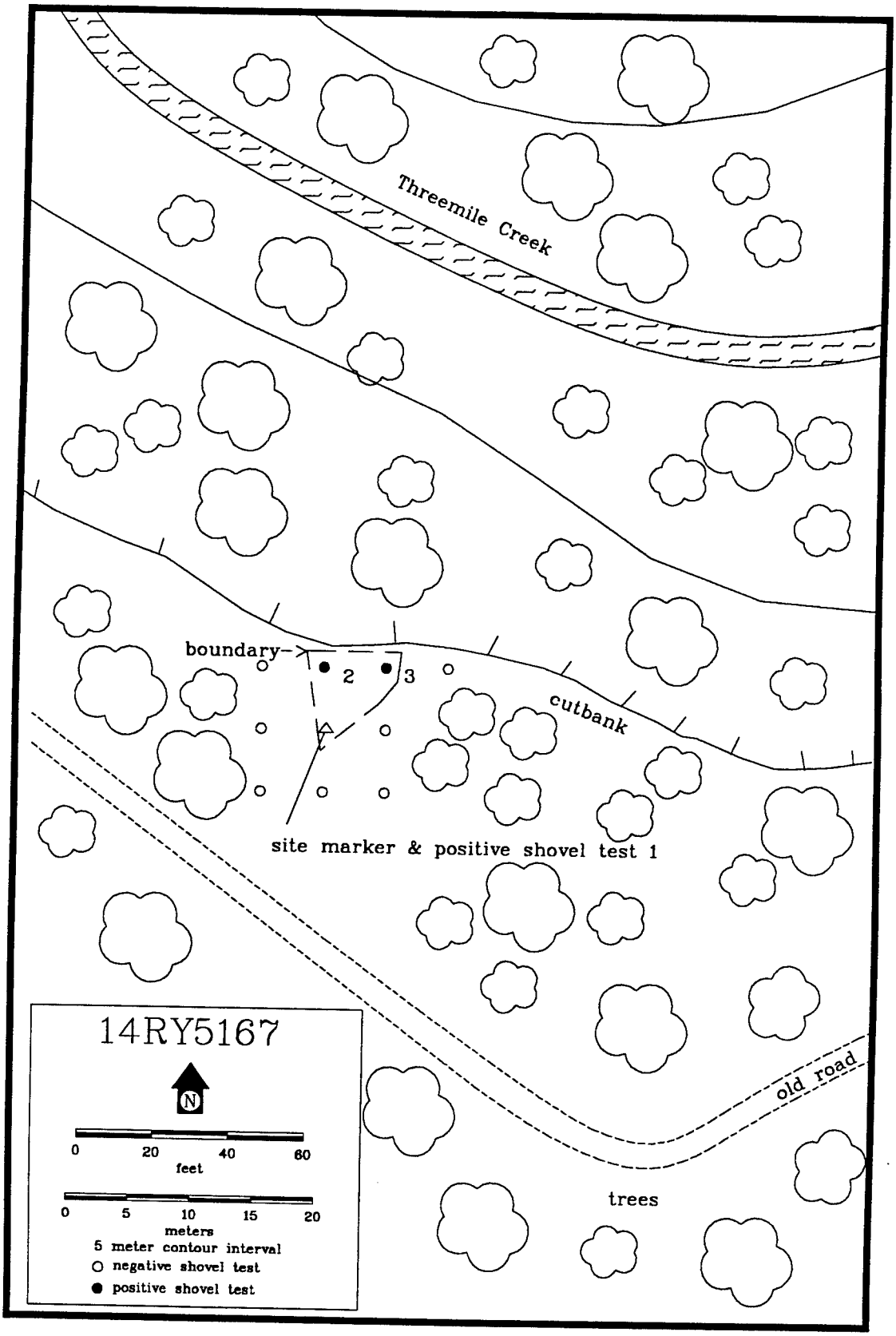

Figure 120. A map of 14RY5167.

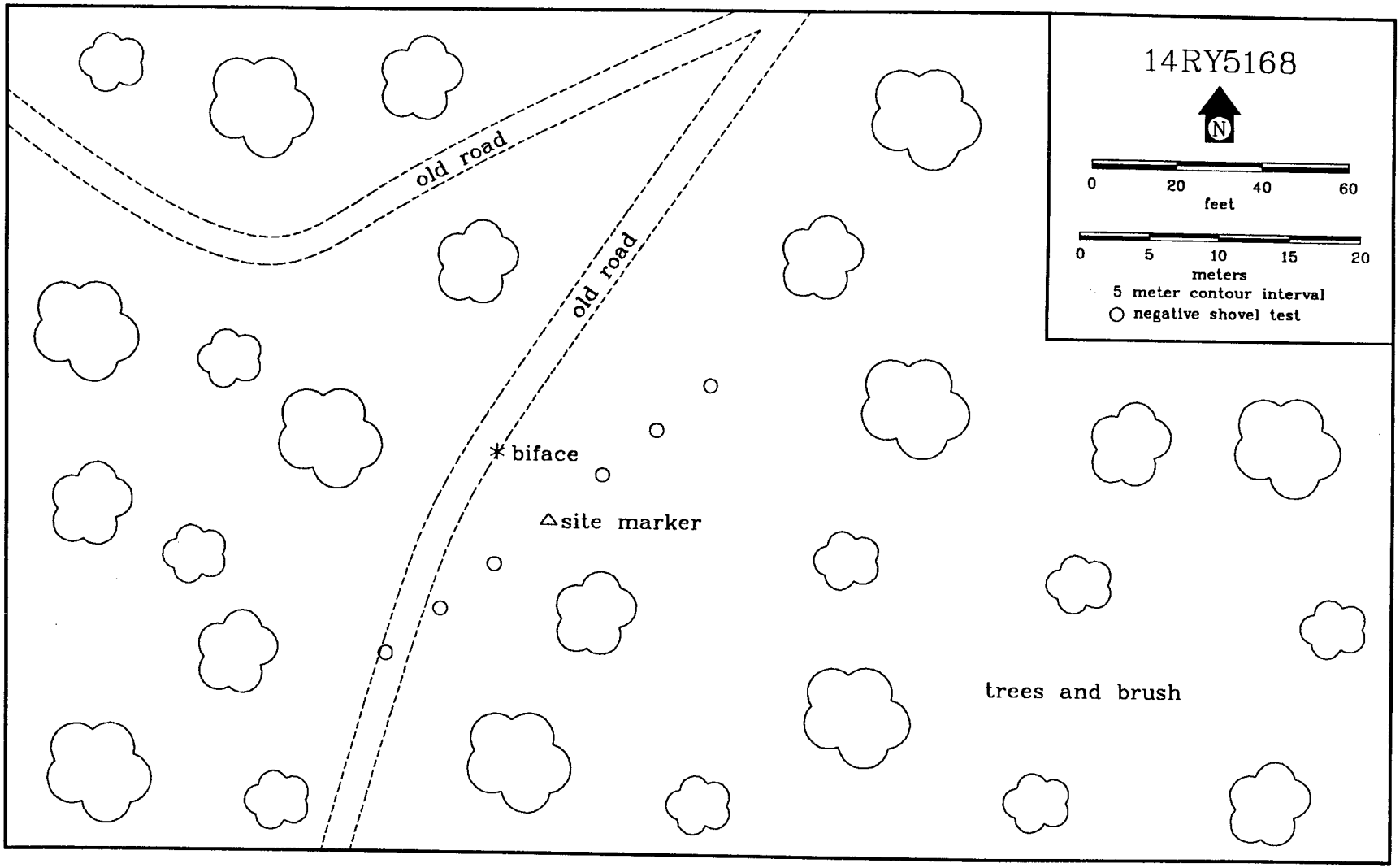

Figure 121. A map of 14RY5168.

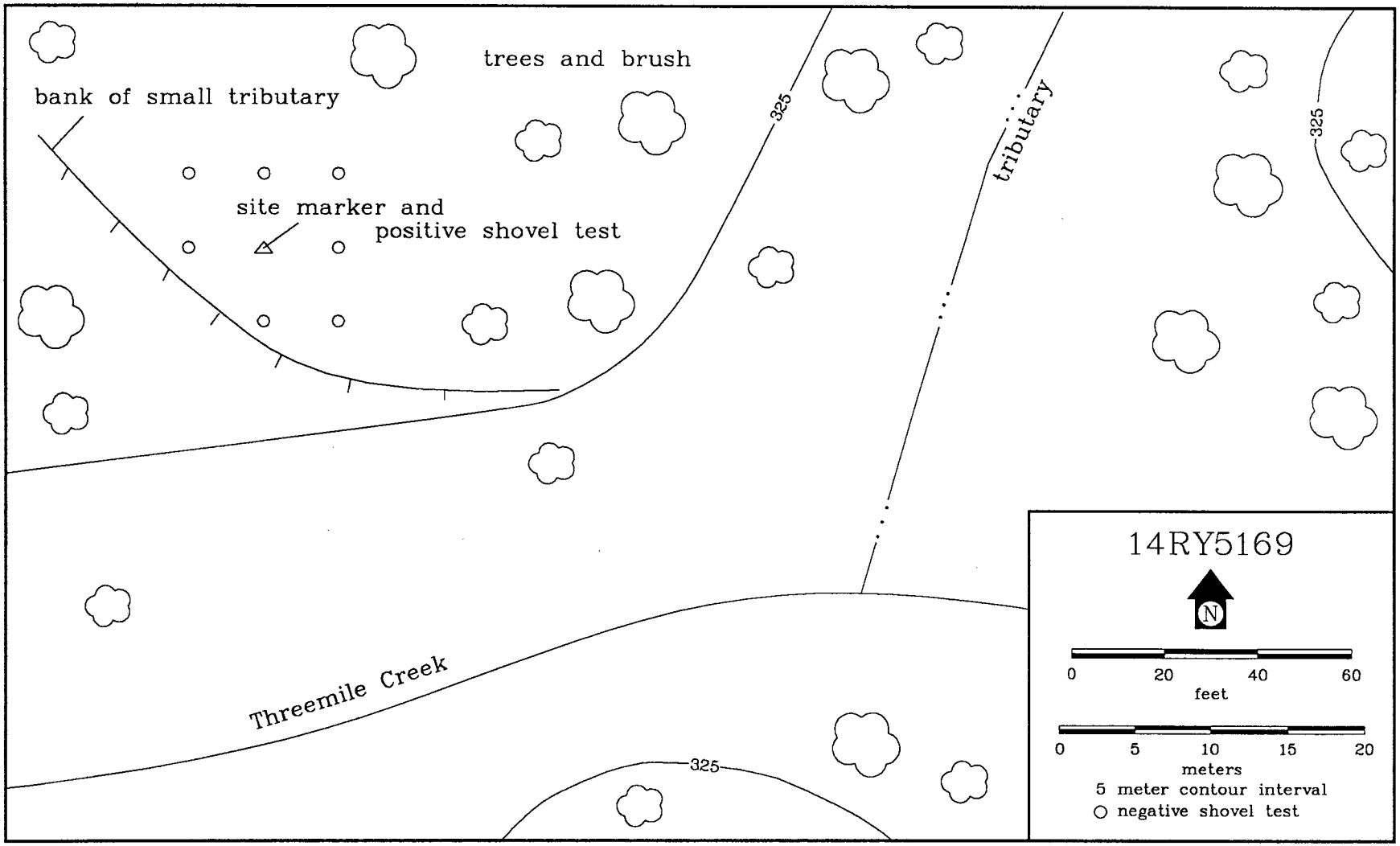

Figure 122. A map of 14RY5169.

14RY5170 (Figure 123)

This isolated find is a flake of Florence chert found in a shovel test near the left bank of Threemile Creek. Eight shovel tests excavated on a five meter grid around the location of the flake did not recover any additional artifacts.

14RY5171 (Figure 124)

A rock cairn was found on an elevated point above the Kansas River Valley. To the east of the cairn, one flake of Florence chert was found in a shovel test. Intervening shovel tests on a 10 meter grid between the cairn and the flake did not produce any additional cultural material.

The rock cairn is approximately 1.5 m in diameter and composed of at least eight large limestone boulders. Since there is no limestone bedrock protruding naturally from the ground surface in any other part of the bench containing the site, the boulders appear to have been intentionally stacked together.

It is difficult to assess the age of this feature. The lack of trenching or other evidence of digging makes it unlikely that it is the result of recent military use of the area. Archaeological testing would be necessary to determine if the cairn is aboriginal and/or what its function was.

14RY5172 (Figure 125)

This isolated find is three Florence chert flakes found in a shovel test. The flake was found on a narrow ridge top southwest of Sumner Hill. Eight shovel tests excavated on a five meter grid around the location of the flakes did not produce any additional artifacts.

14RY5173 (Figure 126)

This site consists of a scatter of approximately 10 flakes and a projectile point on the surface of a grass covered hill top. The large projectile point (Figure 117d) is manufactured from Florence chert. Although its base is fragmented, it appears to have been corner notched with a straight to slightly concave base. The artifact is probably indicative of either an Archaic or Middle Woodland/Early Ceramic occupation.

Shovel testing on a 10 meter grid on the hill top did not recover any subsurface artifacts. A 1-by-1 m test unit excavated along the western edge of the site revealed a thin mantle of top soil over limestone bedrock (Figure 127). No artifacts were found in the test unit.

14RY5174 (Figure 128)

This site consists of two mortared limestone wall segments with a gap in between them. Each wall segment is approximately 20 feet long, 3 feet wide, and 4 feet high. There is a 35 foot gap between the two segments.

This feature is believed to be a horse jump built for cavalry training in the early twentieth century. The gap between the walls may have been spanned by poles or some other type of jumping apparatus. Pride (1926:237) reports that the first course in "Equitation and Horse Training" was held at Fort Riley in 1904. The Cavalry School continued at the post until the end of World War II. The jump recorded as 14RY5174 is one of four such features encountered during LTA's 1996 inventory work (the others being 14GE3103, 14GE3104 and 14GE3105).

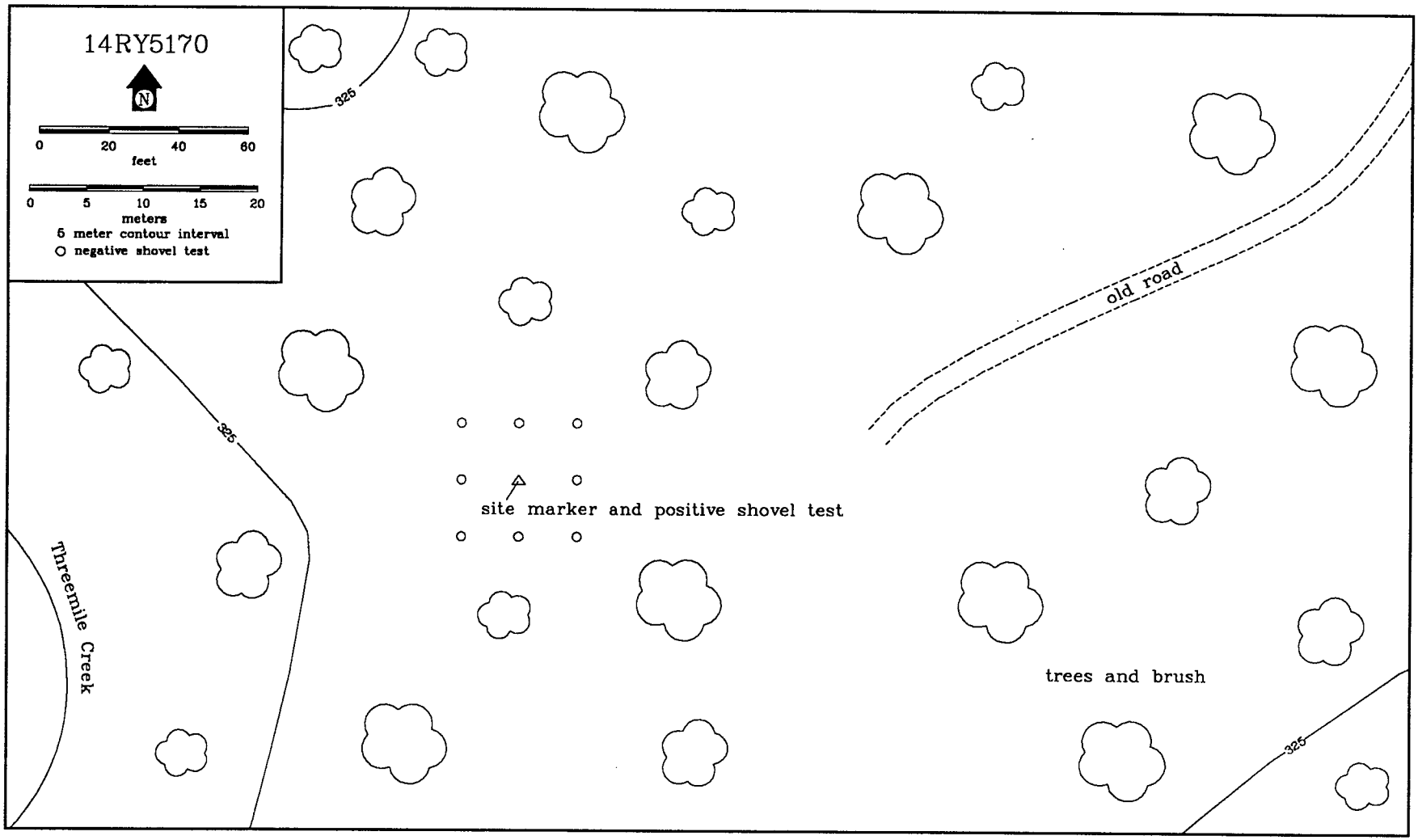

Figure 123. A map of 14RY5170.

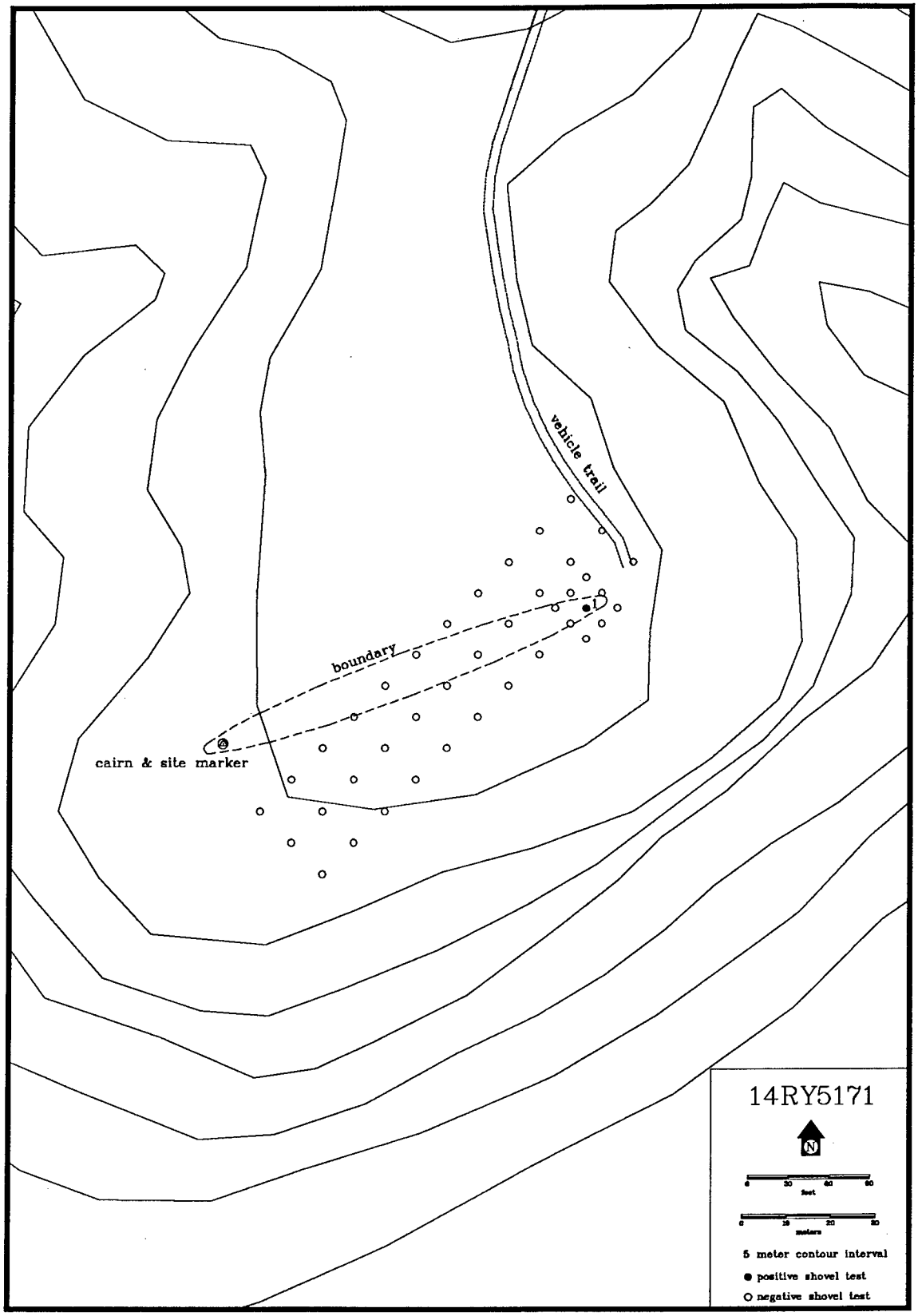

Figure 124. A map of 14RY5171.

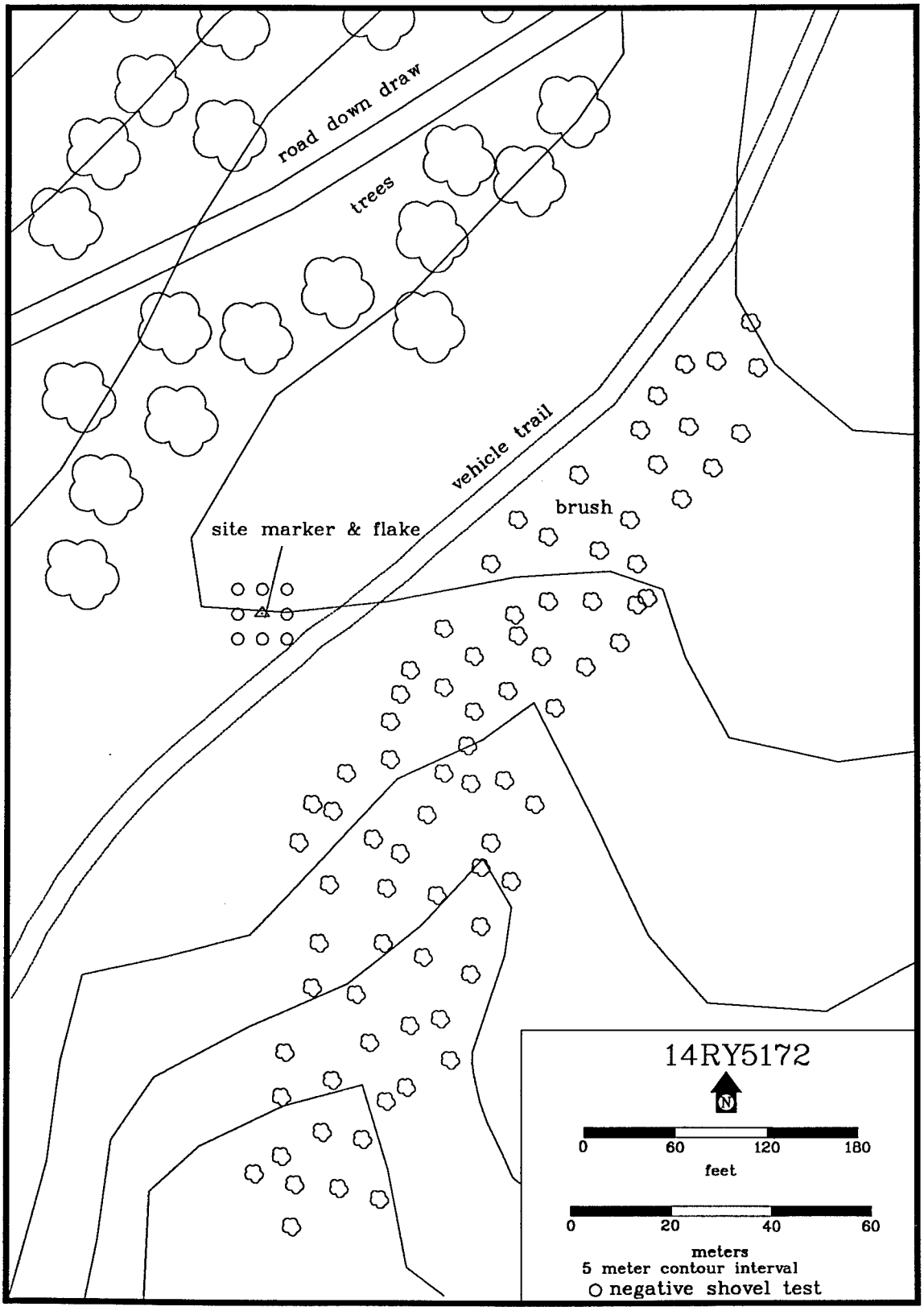

Figure 125. A map of 14RY5172.

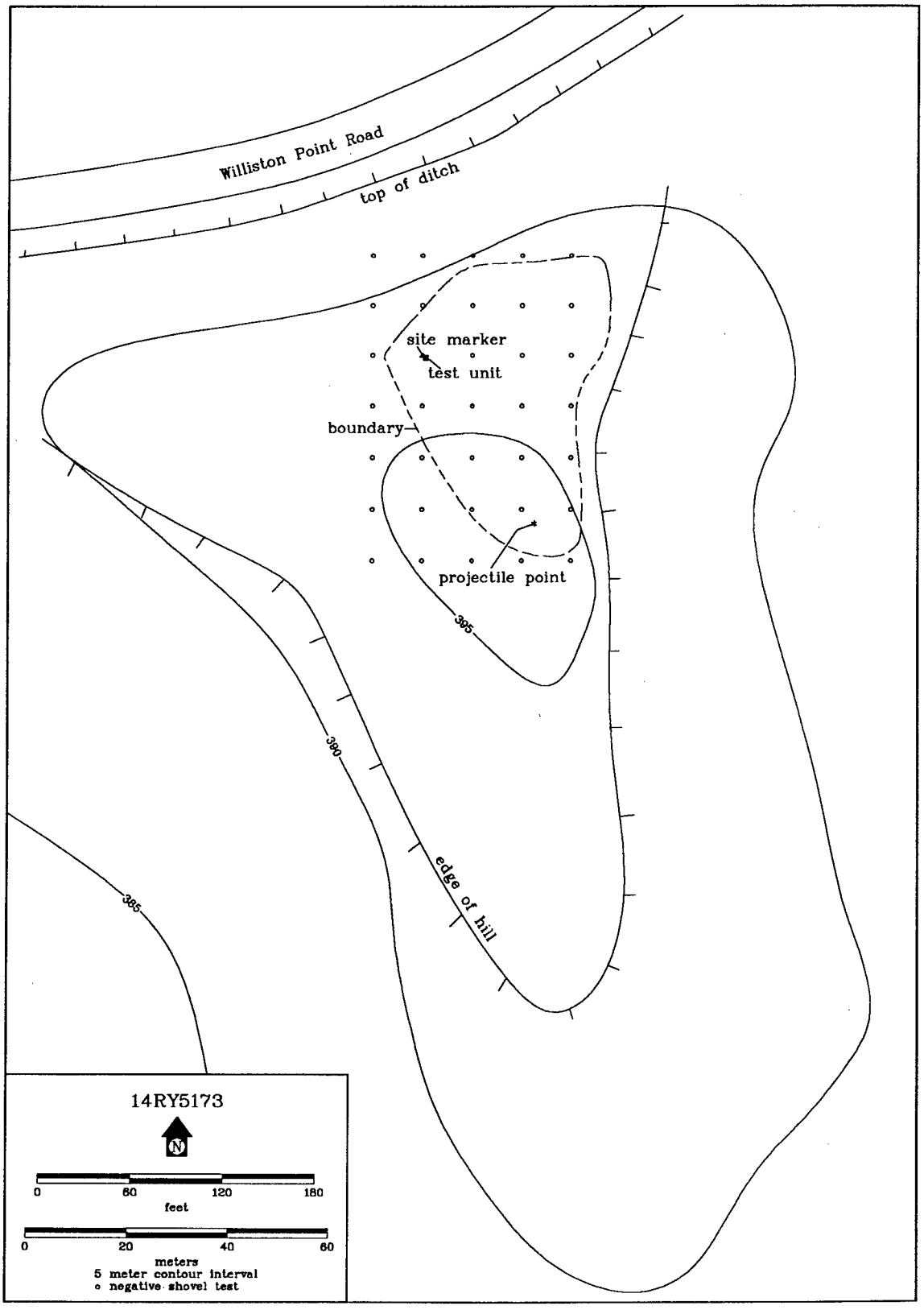

Figure 126. A map of 14RY5173.

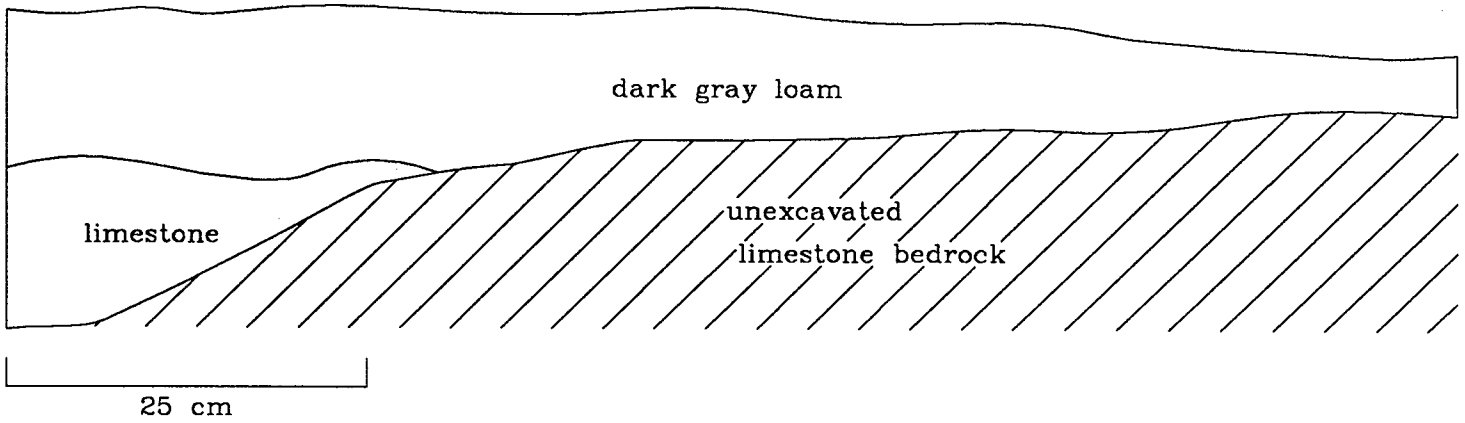

Figure 127. A drawing of the north wall profile from the test unit at 14RY5173.

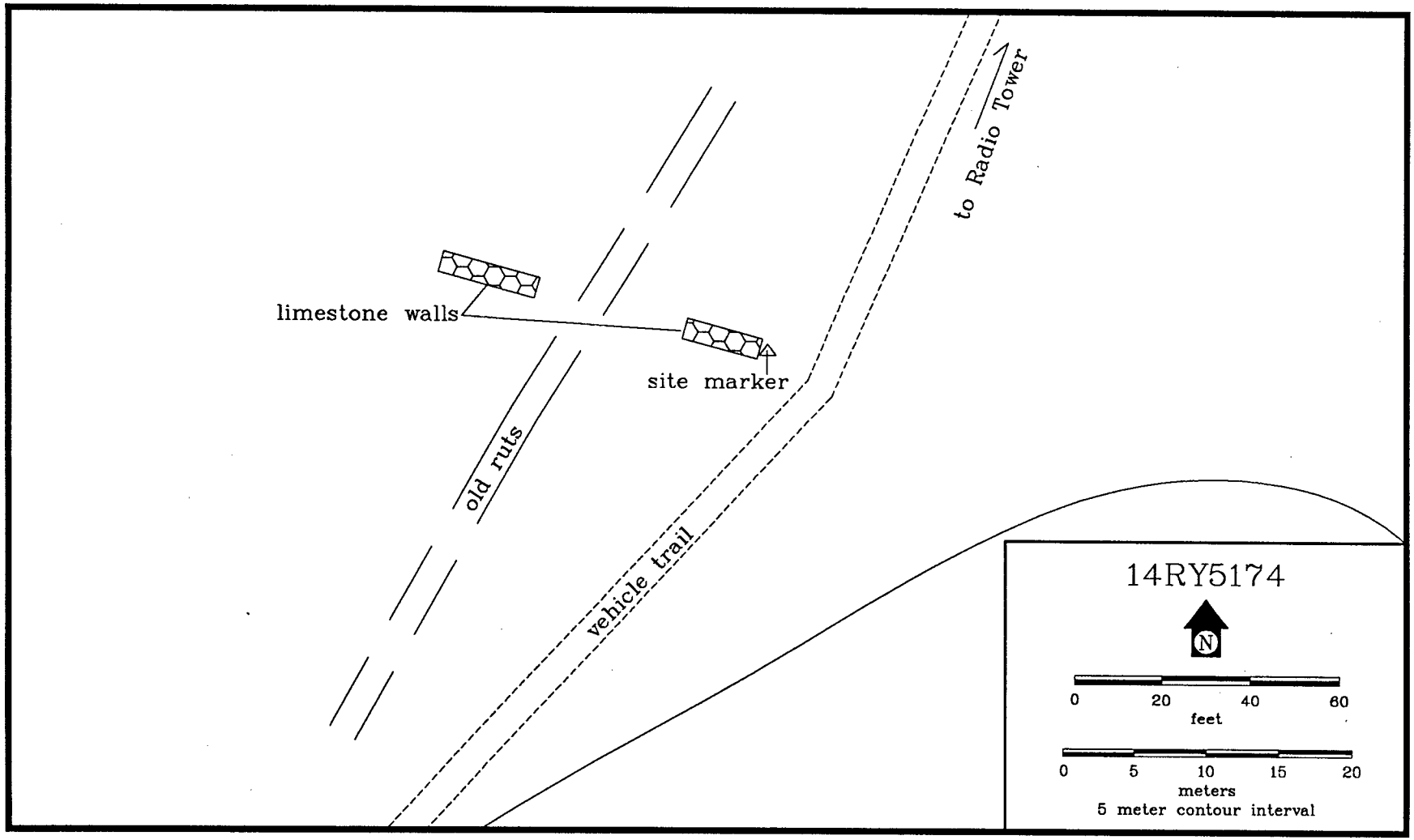

Figure 128. A map of 14RY5174.

14RY5175 (Figure 129)

This site appears to be a lithic quarry area. It is in a small saddle between Sheridan Point and Pawnee Point. Four of 14 shovel tests in the site area produced 18 pieces of flaking debris. A 1-by-1 m test unit excavated next to one of the positive shovel tests produced large quantities of decortication flakes, cores and core fragments, and two bifaces (Figure 117e and Figure 117f). These materials were found from near the surface to a depth of 50 cm where limestone bedrock was encountered.

Most of the matrix within the test unit consisted of a mixture of soil and broken pieces of limestone. Near the base of the excavations, a "shelf" of intact chert was discovered resting on the underlying layer of limestone (Figure 130). It appears that it was this chert seam that was being quarried by the occupants of the site.

14RY5176

This site number has been used to designate a large area between Deep Canyon and Wolf Canyon that appears to have been used extensively as an artillery range at Fort Riley. Materials observed in the area consist primarily of .50 caliber round lead shot, or "grapeshot," and three inch diameter metal canisters. Other nineteenth century ammunition observed in the site area includes 45-70 cartridge casings, .45 caliber pistol cartridges, and at least one .58 caliber miniball. The most common artifact type by far is the grapeshot itself. The shot is distributed over the entire site area and, in places, up to ten pieces per square meter were observed on the surface. Concentrations of grapeshot were often observed in areas of exposed limestone and it seems likely that these light colored outcrops may have been used as targets.

Information in Pride (1926:157, 166) indicates that the first artillery training school at Fort Riley began in 1869 and was disbanded in 1871. Artillery training was later reestablished in May of 1889 with the arrival of Light Battery F of the Fourth Artillery and Light Battery A of the Second Artillery (Pride 1926:202).

The area designated 14RY5176 is to the north and west of 22nd Battery Hill. Pride (1926:249), citing information supplied by Brigadier-General Granger Adams and Lieutenant-Colonel Beverly Browne, presents the following description of this location:

> 22nd Battery Hill. The 22nd Battery, Field Artillery, camped just below this hill one spring, about 1905, for pistol practice and gunners' instruction. During the encampment the soldiers put the name of the organization in very large letters and figures of white stones on the side of the hill. This was visible from nearly all high points on the reservation. Parts of it were frequently used for aiming points and the hill became known as 22 Battery Hill.

14RY5177 (Figure 131)

This isolated find is a flake of Florence chert exposed in a deep erosional ditch south of Threemile Creek. All soil development in the vicinity of the flake has been stripped away by sheet wash erosion, tank traffic, and probable blading. The flake has almost certainly been displaced by water action. No other artifacts were observed.

14RY5178 (Figure 132)

This isolated find consists of three flakes of Florence chert found on the surface. The flakes are in an area south of Threemile Creek that has been disturbed by water erosion

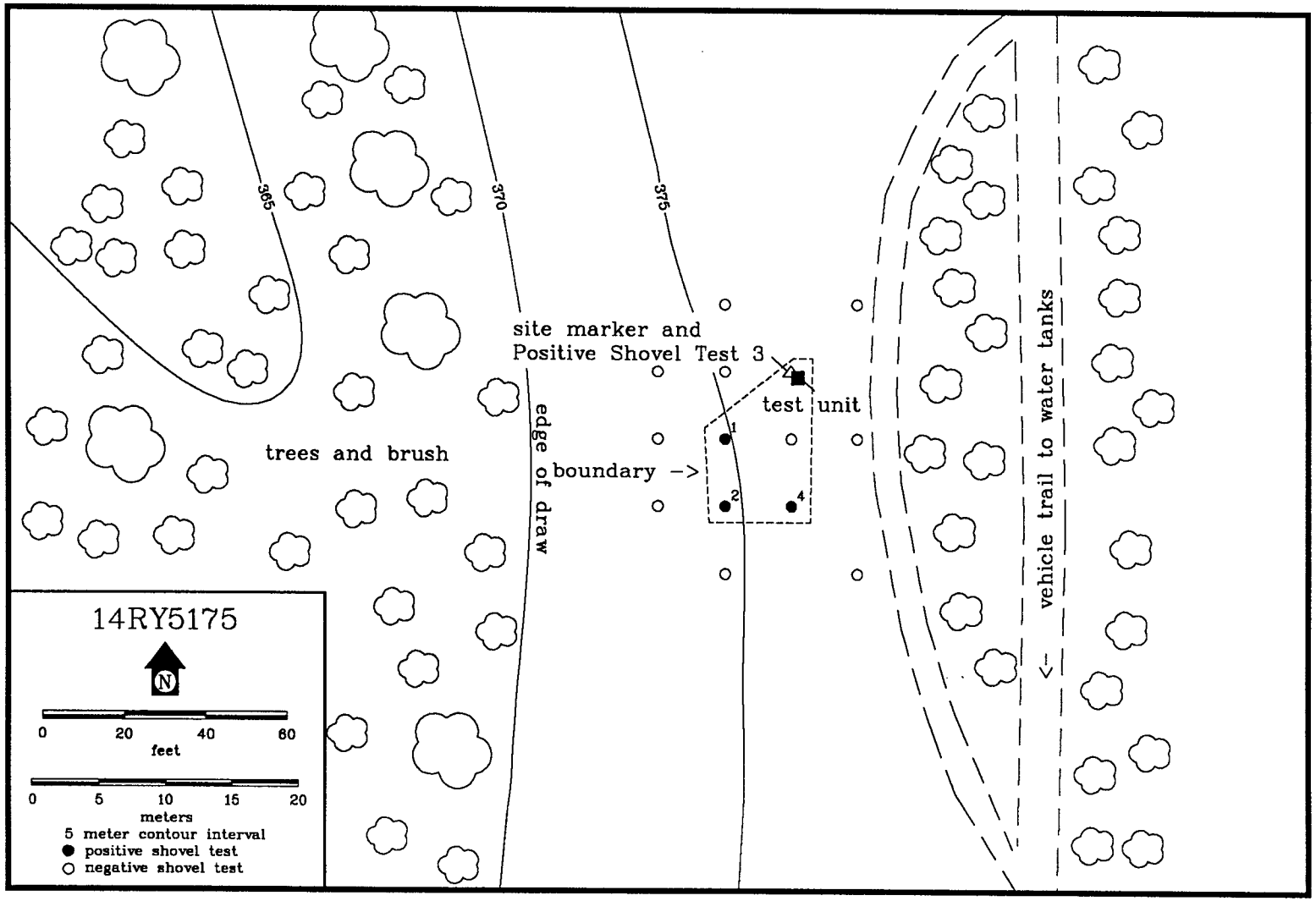

Figure 129. A map of 14RY5175.

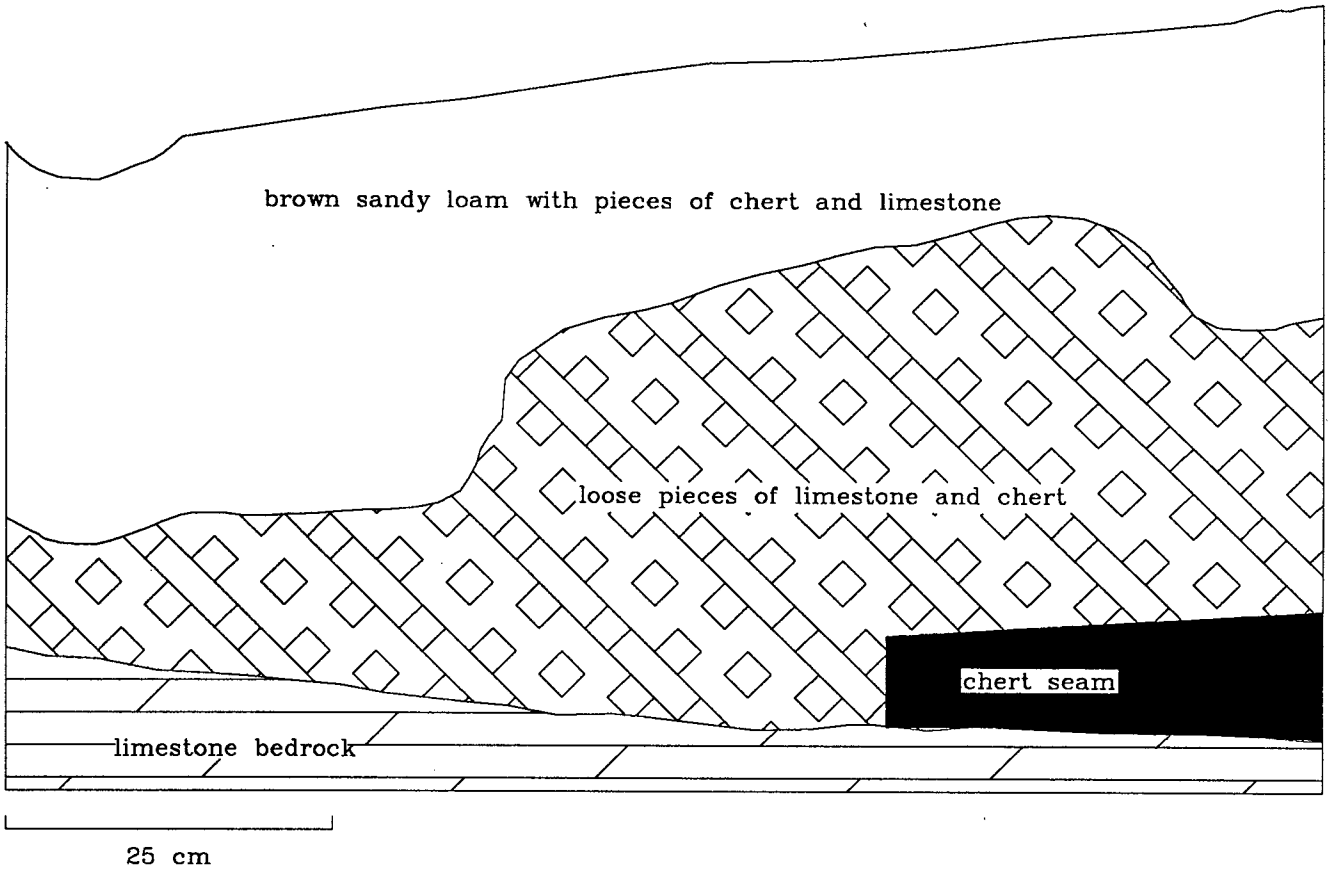

Figure 130. A drawing of the north wall profile from the test unit at 14RY5175.

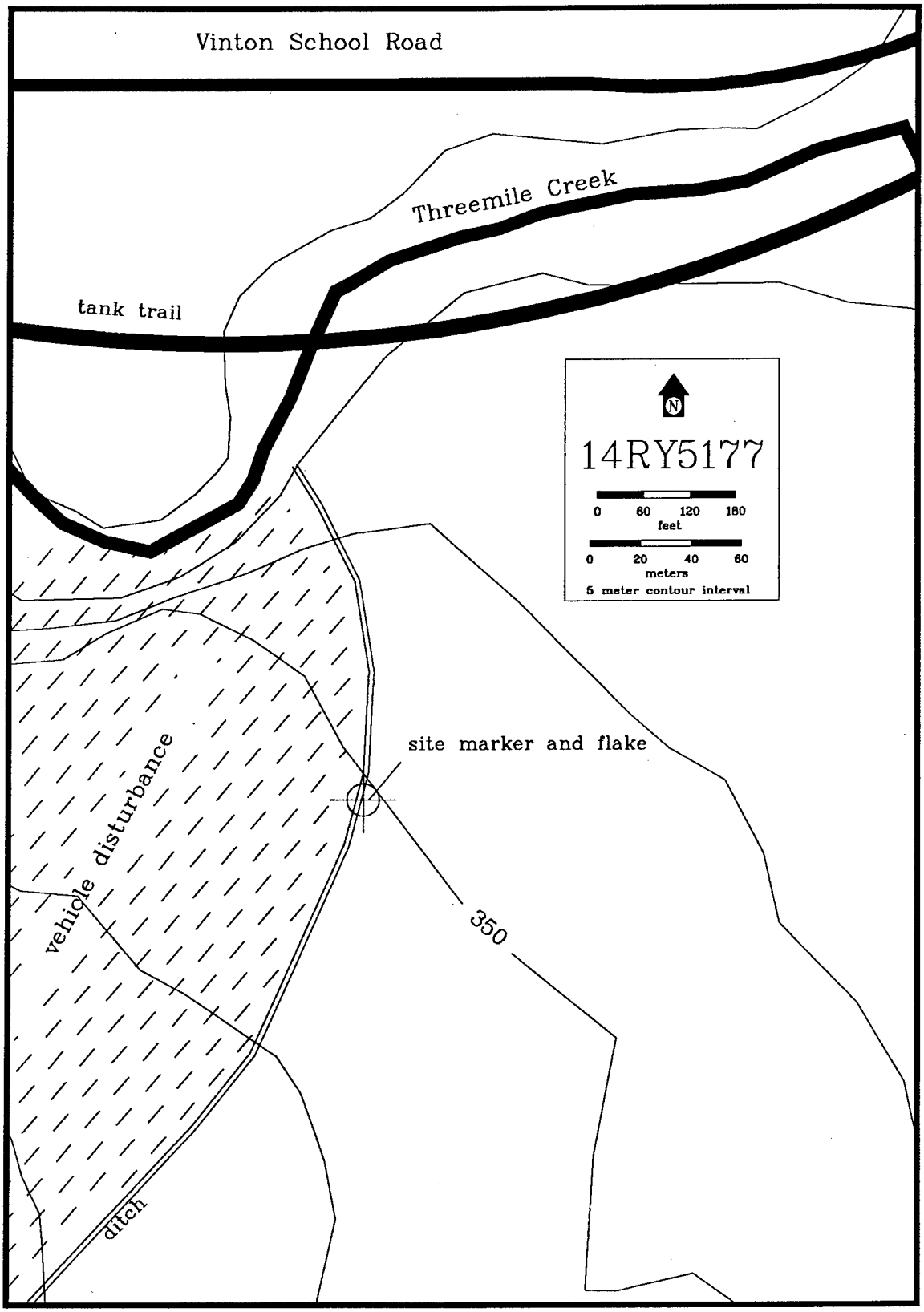

Figure 131. A map of 14RY5177.

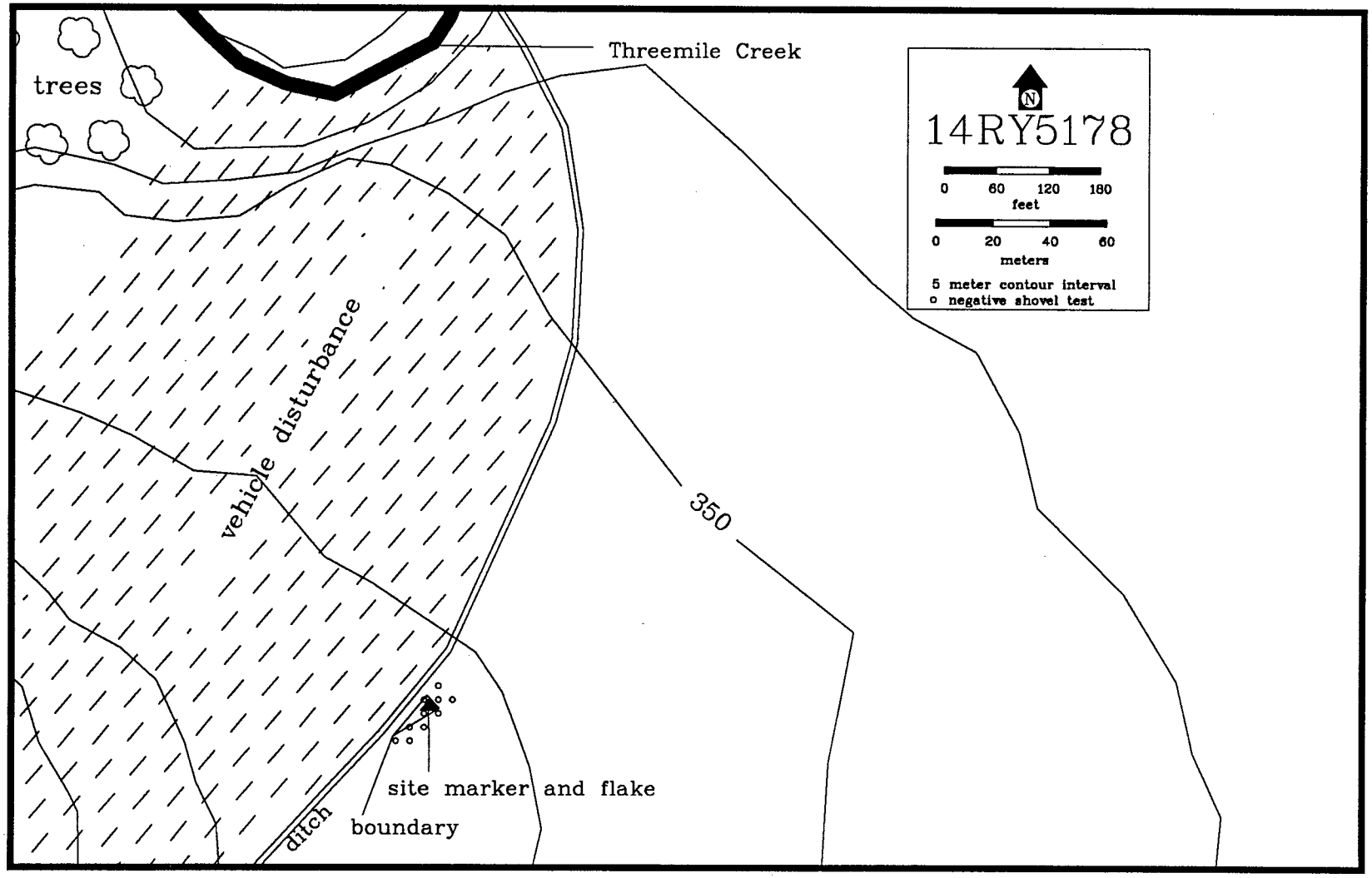

Figure 132. A map of 14RY5178.

and heavy vehicle activity. Twelve shovel tests excavated on a five meter grid did not recover any subsurface artifacts.

951003a-64

A 13-by-26 foot dugout structure was found near the left bank of Threemile Creek. The feature appears to have been intentionally filled in. All that remains is a slight depression in the bank with some pieces of limestone that may be part of an old foundation aligned along its south side. A clear glass, metal screw top bottle in the depression appears to be much more recent. This feature is fairly close to two other recorded historic sites (14RY2141 and 14RY3167).

951003a-74

A rectangular concrete ribbon foundation was found in a wooded area west of Engineer Road. The feature is approximately 16 feet north to south by 20 feet east to west. The foundation wall is approximately six inches wide. The feature is old enough to have a fairly large tree growing in its northeast corner.

951003a-79

This feature appears to be the remains of a well or cistern. It is along the east side of a road going up Wolf Canyon. The area is disturbed by rock and other fill dumped in the drainage to improve the road at a drainage crossing. The circular feature is constructed of stacked limestone and is approximately 12 feet in diameter.

951003a-81

This site contains what appears to be a highly disturbed depression, a small limestone foundation, and a small dump area with purple-tinted bottle glass and brick fragments. The depression is approximately 30-by-15 feet in size and 4.5 feet deep. From the depression, the small limestone foundation is to the east and the historic debris concentration is to the northeast. All of these features are on a small terrace remnant that forms a point above a tributary draw entering Onemile Creek from the west. Immediately to the west of the feature there is a north-to-south trending abandoned road.

951003a-83

This is a 20-by-20 foot depression with an apparent entryway coming into the main part of the feature from the east. The feature is in the wooded bottoms of Pumphouse Canyon, south of the pipeline and pipeline access road and east of the creek channel.

5

INTERPRETATIONS

This chapter addresses the information gathered that is directly applicable to the two research designs followed in the present study (see Chapter 2). The results are based on data from 45 prehistoric components in the Stage I study area and 34 prehistoric components in the Stage II study area. Within Stage I, two components are Middle Ceramic period Smoky Hill variant sites, one is possibly an Early Ceramic period Woodland site, and one site is believed to be late Paleoindian. Within Stage II, one site may be late Archaic, one contains probable Plains Village/Middle Ceramic pottery, and five burial mounds are thought to most likely be Plains Woodland/Early Ceramic. No cultural diagnostics have been recovered from any of the other prehistoric localities.

The original research questions or propositions, repeated from Chapter 2, are presented below in italics. Results based on the Stage I and Stage II investigations are presented immediately after each individual question or proposition.

Are Paleoindian sites present?

At least one Paleoindian site, 14RY5109, was identified within the Stage I study area. The site produced a projectile point midsection on the surface that appears to be some form of late Paleoindian lanceolate. The site is quite disturbed by erosion and cultivation but its setting, in the upland areas of the post, may be important to understanding where other Paleoindian sites could be found. No Paleoindian sites were found within the Stage II study area.

Is there evidence of Early and Middle Archaic sites?

No evidence was found of Early or Middle Archaic sites within either the Stage I or the Stage II areas.

Can the temporal position and social relationship between complexes of the Early, Middle, and Late Ceramic be clarified?

To date, no data to address this research question have been obtained. Additional research recommended at some of the recorded sites may, however, yield useful information (see Chapter 6). This is particularly true of temporal and social relationship questions dealing with the Middle Ceramic period.

Are Protohistoric sites present that are potentially linked to the Pawnee?

No protohistoric sites, either related or unrelated to the Pawnee, were recorded.

Where are the winter, spring, and early summer Archaic sites? How do these patterns compare to adjacent areas such as western Missouri or the High Plains?

The one possible Archaic site was found in the Stage II study area (14RY5173). It is on a hill top overlooking the Wolf Canyon area. The season of use at this site is unknown.

Do Plains Woodland groups represent a continuity with the earlier Archaic groups?

No information was gathered with respect to this research question.

What is the Woodland settlement pattern and what is the degree of sedentism among Plains Woodland groups?

Thus far, the only potential Woodland site identified within the Stage I area is 14RY5131 and this is a very tenuous assignment (see Chapter 3). If 14RY5131 is Woodland, its setting in the valley of Sevenmile Creek suggests that tributary stream valleys were being occupied by Woodland peoples. The season of use and the degree of sedentism reflected in these types of occupation areas are unknown.

The only potential Woodland sites identified within the Stage II area are burial mounds 14GE329, 14GE3106, 14GE3107, 14RY46, and 14RY47. Since these are special use locations rather than encampments, their usefulness in studying settlement patterns is probably quite limited. Habitation areas that may be related to these mounds have not yet been identified within the Stage II study area.

Were the Plains Village sites found in tributary stream valleys occupied year round or on a seasonal basis?

At least two Plains Village sites, 14RY115 and 14RY5129, were identified within the tributary stream valley of Sevenmile Creek in the Stage I area. One site (14RY5157) within the Stage II study area produced a sherd that is likely Plains Village. The site is on a terrace in the upper reaches of Threemile Creek. Without additional testing, the specific function and season of use at these sites remains unknown.

What role did microenvironments play in the settlement and subsistence patterns of prehistoric peoples in eastern Kansas?

The data indicate that some site locations such as 14RY5153, 14RY5162 and 14RY5175 are keyed to the occurrence of high quality chert outcrops. At other sites, this is a very difficult question to answer on the basis of survey data alone. While the distribution of prehistoric properties indicates the use or occupation of a wide variety of topographic and environmental settings, the actual "role" played by any particular environmental setting is not yet obvious. One tendency is for sites to be near the ecotonal boundary along the contact of the uplands with the drainage bottoms. Without a better understanding of site contents and a much more specific mapping of "microenvironments," in most instances, it is not possible to state categorically, or even predict with a high degree of accuracy, which resources were being extracted or utilized within a particular setting.

There should be a disproportionate number of sites on upland terrain. Overall, the prehistoric components should mostly be on the uplands with smaller numbers at T-1 (i.e., the first terrace above the modern floodplains) locations. Plains Archaic and Plains Woodland components will be in the upland, while Plains Village sites will be on the T-0 (i.e., floodplain) and T-1 terraces. Historic sites should be in primarily upland locations.

It should be emphasized again that the present study was designed to deal primarily with prehistoric localities; historic era resources are not considered in any part of this analysis. Prehistoric locations recorded as both sites and isolated finds (see Chapter 2) are all, for the purposes of this analysis, treated as sites.

In considering this research proposition, "disproportionate," as the term is used above, is interpreted to mean a higher than average density of sites in the upland terrain. This is not substantiated by either the Stage I or the Stage II data.

There are 25 prehistoric sites in the Stage I uplands and 20 prehistoric sites in the Stage I flood plain/first terrace zone (as noted in Chapter 2, no attempt was made to differentiate between the flood plain and the first terrace). The uplands account for 86.64 percent of the Stage I survey area. Therefore, while fewer sites (20 of 45) were recorded in the flood plain/first terrace zone, the density of sites is actually higher (.06 sites/ha versus .01 sites/ha in the uplands).

Within the Stage II study area, there are 22 prehistoric sites in the uplands and 11 prehistoric sites in the flood plain/first terrace zone. The uplands within Stage II account for 91.21 percent of the Stage II study area. As with Stage I, fewer (11 of 33) were recorded in the Stage II flood plain/first terrace zone but site density is higher (.04 sites/ha versus .01 sites/ha in the uplands).

The data from 14RY5131 suggest that Woodland *occupation* sites are found more commonly on the first terrace than in the uplands. Woodland mounds, on the other hand, tend to be found in the uplands. The sites recorded during both Stage I and Stage II tend to confirm the proposition that Plains Village sites will be found on the flood plain and first terrace areas.

If deeply buried sites exist, core testing may delimit such deposits.

Core testing was not undertaken during the present study.

[What is] . . . the validity of the model of cultural resources probabilities devised for Fort Riley, Kansas by USACERL? and *[Are] . . . short-term activity areas . . . the types of sites most likely to occur in the low probability zones?*

The basic USACERL proposition - that there is a higher probability of finding sites in the high probability zones than in the low probability zones - is correct for the prehistoric cultural resources in Stage I but not those in the Stage II. The high probability areas account for approximately 380 ha, or 15.06 percent of the Stage I area. These areas contain 20 of the 45 recorded prehistoric properties. Using a hectare (2.471 acres) as the basic unit of inventory, there is a 1 in 19 chance (i.e., 1 prehistoric locality for every 19 ha of survey) of finding a prehistoric site in the high probability areas. This compares to a 1 in 86 chance in the low probability areas.

The Stage II high probability areas account for approximately 855 ha, or 28.17 percent of the Stage II study area. These areas contain 7 of the 33 recorded prehistoric properties. There is a 1 in 122 chance (i.e., 1 prehistoric locality for every 122 ha of survey) of finding a prehistoric site in the "high probability" areas. This compares to a 1 in 84 chance in the "low probability" areas.

The second part of the USACERL model - that short-term activity sites are the most likely types of sites to be found in the low probability zones - does not seem to hold true for either study area. This finding is based on the analytical approach described in Chapter 2 (i.e., the proposition that short term versus long term activity can be detected by comparing artifact assemblage diversity against site size).

Tables 4 and 5 are summaries of the artifact types from the prehistoric properties. A diversity index (*H'*) for each locality, explained in Chapter 2, was calculated on the basis

Table 4. Summary of prehistoric site characteristics, Stage I.

Site number	point	Projectile Biface	scraper	End tool	Flake stone	Hammer-count	Vessel Daub	Core	no cortex	Flakes, cortex	Flakes, FCR	Charcoal	zone	USACERL H'	Size (m^2)
14RY115	2	5	0	7	1	2	0	3	1	1	1	0	high	1.930	11067
14RY117	0	1	0	0	0	0	0	0	1	0	0	0	low	.693	201
14RY5103	0	0	0	0	0	0	0	0	1	1	0	0	high	.693	1
14RY5104	0	0	0	1	0	0	0	0	1	1	0	0	high	1.099	754
14RY5106	0	0	0	0	0	0	0	0	1	1	0	0	low	.693	506
14RY5107	0	0	0	0	0	0	0	0	1	1	0	0	low	.693	3030
14RY5108	0	0	0	0	0	0	0	0	1	1	0	0	low	.693	5
14RY5109	1	0	0	0	0	0	0	0	1	1	0	0	low	1.099	728
14RY5110	0	0	0	0	0	0	0	0	0	1	0	0	low	0	1
14RY5112	0	0	0	0	0	0	0	0	1	0	0	0	low	0	1
14RY5114	0	0	0	0	0	0	0	0	1	0	0	0	low	0	1
14RY5115	0	0	0	0	0	0	0	0	1	1	0	0	low	.693	11407
14RY5116	0	0	0	0	0	0	0	1	1	1	0	0	low	1.099	180
14RY5117	0	0	0	0	0	0	0	0	1	0	0	0	low	0	1
14RY5118	0	0	0	0	0	0	0	0	1	1	0	0	low	.693	116
14RY5121	0	0	0	0	0	0	0	0	1	0	0	0	low	0	92
14RY5122	0	0	0	0	0	0	0	1	1	1	0	0	low	1.099	1
14RY5125	0	1	1	1	0	0	0	0	1	1	0	0	high	1.609	1674
14RY5126	0	0	0	0	0	0	0	0	1	1	0	0	high	.693	787
14RY5127	0	0	0	0	0	0	0	0	0	1	0	0	high	0	1
14RY5128	0	0	0	0	0	0	0	0	0	1	0	0	high	0	1
14RY5129	0	0	0	6	0	2	1	3	1	1	0	1	high	1.679	826
14RY5130	0	1	0	0	0	0	0	0	1	1	0	0	high	1.099	138
14RY5131	0	0	0	2	0	1	0	2	1	1	0	0	high	1.55	2674
14RY5132	0	0	0	1	0	0	0	1	1	1	0	0	high	1.386	493
14RY5133	0	0	1	0	0	0	0	0	0	1	0	0	high	.693	5
14RY5134	0	0	0	0	0	0	0	0	1	0	0	0	high	0	1
14RY5135	0	0	0	0	0	0	0	0	1	1	0	0	high	.693	5
14RY5136	0	1	0	0	0	0	0	0	0	0	0	0	high	0	1
14RY5137	0	1	0	6	0	0	0	2	1	1	0	0	high	1.295	419
14RY5138	0	0	0	0	0	0	0	0	0	1	0	0	high	0	5
14RY5139	0	0	0	0	0	0	0	0	0	1	0	0	high	0	5
14RY5140	0	0	0	0	0	0	0	0	0	1	0	0	low	0	5
14RY5141	0	0	0	0	0	0	0	0	1	1	0	0	low	.693	20
14RY5142	0	0	0	0	0	0	0	0	0	1	0	0	low	0	1
14RY5143	0	0	0	0	0	0	0	0	0	1	0	0	low	0	1
14RY5144	0	2	1	0	0	0	0	2	1	1	0	0	low	1.55	13270
14RY5145	0	0	0	0	0	0	0	0	1	0	0	0	high	0	1
14RY5146	0	0	0	0	0	0	0	0	0	1	0	0	low	0	1
14RY5147	0	0	0	0	0	0	0	0	0	1	0	0	low	0	1
14RY5148	0	0	0	0	0	0	0	0	1	0	0	0	low	0	1
14RY5149	0	0	0	0	0	0	0	0	1	1	0	0	low	.693	186
14RY5150	0	0	0	0	0	0	0	0	1	0	0	0	low	0	12
14RY5152	0	0	0	1	0	0	0	0	1	1	0	0	low	1.099	565
14RY5153	0	0	0	0	0	0	0	0	1	1	0	0	high	.693	480

Table 5. Summary of prehistoric site characteristics, Stage II.

Site number	Projectile point	Biface	End scraper	Drill	Flake tool	Vessel count	Core	Flakes, no cortex	Flakes, cortex	USACERL zone	H'	Size (m^2)
14GE183	0	0	0	0	0	0	0	1	1	low	0.693	2600
14GE3101	0	0	0	0	0	0	0	1	0	low	0.000	1
14GE3102	0	0	0	0	0	0	0	1	0	low	0.000	1
14GE3104	0	0	0	0	1	0	0	1	1	high	1.099	4426
14RY3184	0	0	0	0	1	0	0	1	1	low	1.099	508
14RY3185	0	0	0	0	0	0	1	1	1	high	1.099	15
14RY5155	0	0	0	0	1	0	3	1	1	low	1.242	1270
14RY5156	0	0	0	0	0	0	0	0	1	low	0.000	1
14RY5157	0	1	2	0	1	1	2	1	1	low	1.889	13,915
14RY5158	0	0	0	0	0	0	0	1	1	low	0.693	3428
14RY5159	0	2	0	1	0	0	9	1	1	low	1.128	3720
14RY5160	0	0	0	0	0	0	2	1	1	low	1.040	1266
14RY5161	0	0	0	0	1	0	0	0	0	low	0.000	1
14RY5162	0	1	0	0	0	0	10	1	1	low	0.794	2880
14RY5163	0	0	1	0	0	0	0	1	1	low	1.099	2370
14RY5164	0	1	0	0	0	0	0	0	0	low	0.000	1
14RY5165	0	0	0	0	0	0	0	1	0	high	0.000	1
14RY5166	0	0	1	0	0	0	0	0	0	low	0.000	1
14RY5167	0	0	0	0	0	0	0	1	0	high	0.000	40
14RY5168	0	1	0	0	0	0	0	0	0	high	0.000	1
14RY5169	0	0	0	0	0	0	0	1	0	high	0.000	1
14RY5170	0	0	0	0	0	0	0	1	0	high	0.000	1
14RY5171	0	0	0	0	0	0	0	0	1	low	0.000	755
14RY5172	0	0	0	0	0	0	0	1	0	low	0.000	1
14RY5173	1	0	0	0	0	0	0	1	1	low	1.099	1836
14RY5175	0	2	0	0	0	0	5	1	1	low	1.149	80
14RY5177	0	0	0	0	0	0	0	1	0	low	0.000	1
14RY5178	0	0	0	0	0	0	0	1	0	low	0.000	60

of these figures. These indices were then plotted against individual site areas (Figure 133) as a means of establishing, at least theoretically, a continuum between short term special use sites (with small site areas and low diversity indices) and long term residential or extended use sites (with large site areas and high diversity indices). In Figure 133, the localities in the high probability zone are depicted by a different symbol than those recorded in the low probability zone; Stage I and Stage II localities are differentiated by color.

Since the artifact assemblage of the five recorded Stage II burial mounds is unknown, these sites were not used in this analysis. It is perhaps useful to note, however, that four of these mounds (14GE329, 14GE3107, 14RY46, and 14RY47) fall into the high probability zones, while 14GE3106 is in a low probability area.

From the data presented in Figure 133, there is no demonstrated pattern of sites in the low probability zone being short term activity loci. While these types are represented in the low probability area, there are also sites in this zone that have moderate to high diversity in their artifact assemblages and/or cover a moderate to large area. Based on these characteristics, not all of the prehistoric sites in the low probability zone should be considered short-term special use localities. While it may be accurate to state that short-term activity sites are the "most likely" site type to be encountered in the low probabilty zone, such a statement has very little interpretive or analytical value; they are the most likely types to be encountered in *both* zones. The high and low probability zones do not appear to be providing an accurate means of stratifying particular site types.

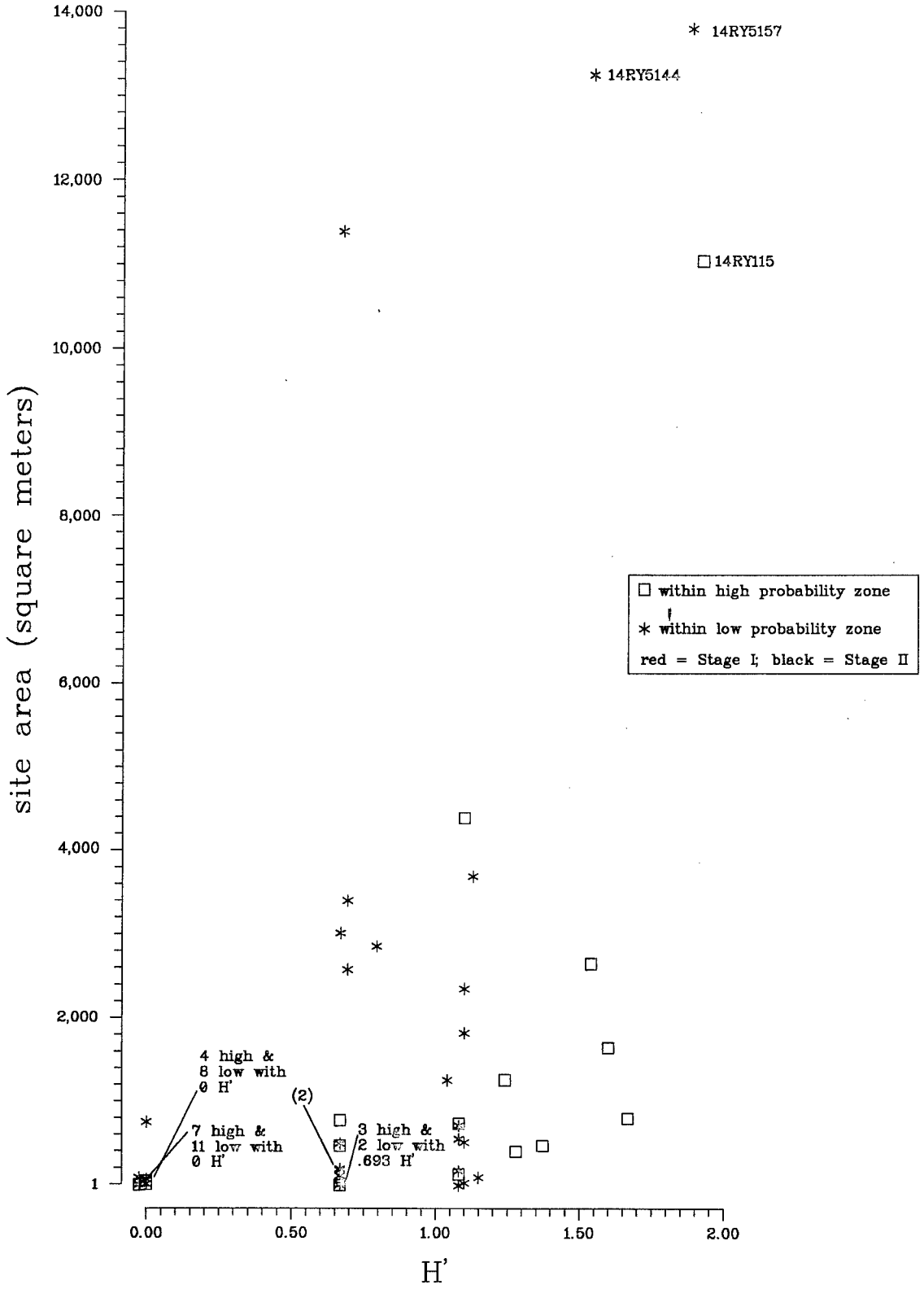

Figure 133. A scatter plot of site area by diversity index (*H'*).

6

RECOMMENDATIONS

INTRODUCTION

This chapter presents a summary of the National Register of Historic Places (NRHP) evaluations for the 99 cultural resources recorded in the Stage I and Stage II study areas. Specific types of additional research and protective actions are presented for some of the properties.

Based on the inspections carried out in the Stage I and Stage II study areas, is it clear that both historic and present day civilian and military activities have had an impact on the cultural resources encountered. Cultivation, especially along the eastern and southern edges of the Stage I study area, has no doubt destroyed or severely impacted a number of sites. In the uplands areas of the Stage I study area, the dust bowl conditions of the 1930s, combined with probable overgrazing, appears to have severely deflated the soil cover and exposed many prehistoric sites.

In his history of Fort Riley, Pride (1926:247) discusses a major "foresting" of the reservation. This may indicate much of the area was partially or completely deforested. The impact of this tree cutting, as well as the subsequent revegetation efforts, is not completely known. Any increased flooding brought on by the lack of tree cover in the stream bottoms would almost certainly have impacted the integrity of some sites along the creek channels.

Over 100 years of military training activities at Fort Riley have had a noticeable impact. This is most recognizable in the form of intentional ground clearing and leveling activities, vehicle trails, various types of entrenchments, and areas of bare ground caused by intensive bivouacking. All of these actions tend to destabilize the present soil cover and accelerate natural erosional processes. With the anticipated increase in mechanized activity, especially in the uplands of the Stage I area, increased soil erosion and the subsequent disturbance to archeological deposits can be expected.

National Register assessments presented in the sections that follow are based on criteria of evaluation established by the National Park Service (1991) and on research goals and contexts enumerated in the Kansas preservation plans (Brown and Simmons 1987; Lees 1989). Forty-nine of the 99 locations are isolated finds. Since isolated finds are not considered historical properties by the Kansas State Historic Preservation Office (personal communication, Barry Williams, Kansas State Historical Society, March 1996), none of these locations are considered eligible for nomination to the National Register of Historic Places (NRHP). They are therefore not discussed in the remainder of this chapter.

Table 6 is a listing of the 50 sites from the Stage I and Stage II inventory areas. Within Table 6, the priority of the recommendations made for individual locations has been ranked as follows:

(1)

Table 6. Summary of sites.

Sites not NRHP eligible

Site Number	Field Number	Quadrangle	County	Type	Size (m^2)	Depth (cm)	Content	Date or Period	Function
14RY5107	951003a-13	Keats	Riley	prehistoric site	3030	surface	lithics	Unknown Prehistoric	Camp
14RY5116	951003a-3	Keats	Riley	prehistoric site	180	surface	lithics	Unknown Prehistoric	Camp
14RY5125	951003a-54	Keats	Riley	prehistoric site	1,674	surface	lithics	Unknown Prehistoric	Camp
14RY5130	951003a-41	Keats	Riley	prehistoric site	138	near surface	lithics	Unknown Prehistoric	Camp
14RY5149	951003a-49	Keats	Riley	prehistoric site	186	ca. 15 cm	lithics	Unknown Prehistoric	Camp
14RY5152	951003a-34	Keats	Riley	prehistoric site	565	ca. 25 cm	lithics	Unknown Prehistoric	Camp
14RY5154	951003a-56	Keats	Riley	historic site	457	surface	historic artifacts	Historic 1854-1900, 1900-1954	Agrarian
14RY5158	951003a-65	Fort Riley NE	Riley	prehistoric site	3428	surface	lithics	Unknown Prehistoric	Camp
14RY5173	951003a-80	Junction City	Riley	prehistoric site	1836	surface	lithics	Archaic or Early Ceramic	Camp

Sites in need of further wo

Site Number	Field Number	Quadrangle	County	Type	Size (m^2)	Depth (cm)	Content	Date or Period	Function
14GE183		Junction City	Geary	prehistoric site	2600	40	lithics	Unknown Prehistoric	Camp
14GE3103	951003a-85	Junction City	Geary	historic site		surface	horse jump	Historic 1900-1954	Military
14GE3104	951003a-87	Junction City	Geary	historic and prehistoric site	4426	50	lithics, mammal bone, horse jump	Unknown Prehistoric and Historic 1900-1954	Camp, M
14GE3105	951003a-86	Junction City	Geary	historic site	40	surface	horse jump	Historic 1900-1954	Military
14RY117		Keats	Riley	prehistoric site	201	ca. 100 cm	lithics	Unknown Prehistoric	Camp
14RY3172		Junction City/Ogden	Riley	historic site	119,654	surface	firing range	Historic 1900-1954	Military
14RY3184		Ogden	Riley	prehistoric site	508	30	lithics	Unknown Prehistoric	Camp
14RY3185		Ogden	Riley	prehistoric site	15	20	lithics	Unknown Prehistoric	Camp
14RY4131	951003a-2	Keats	Riley	historic and prehistoric site	11,407	ca. 10 cm	historic artifacts, lithics	Unknown Prehistoric, Historic 1854-1900, 1900-1954	Camp, W Agrarian
14RY5104	951003a-21	Keats	Riley	prehistoric site	754	surface and near surface	lithics	Unknown Prehistoric	Camp
14RY5105	951003a-22	Keats	Riley	historic site	234	surface	quarry feature	Historic 1854-1900, 1900-1954	Agrarian
14RY5109	951003a-16	Keats	Riley	prehistoric site	728	near surface to unknown depth	lithics	Paleoindian - Late Paleoindian	Camp
14RY5115	951003a-76	Ogden	Riley	historic site	1375	surface	water tank foundations	Historic 1900-1954	Military
14RY5120	951003a-9	Keats	Riley	historic site	116	surface	military fence posts	Historic 1854-1900, 1900-1954	Military
14RY5129	951003a-31	Keats	Riley	prehistoric site	826	ca. 50 cm	lithics, ceramics, daub, charcoal	Middle Ceramic - Smoky Hill (?)	Camp
14RY5131	951003a-38	Keats	Riley	prehistoric site	2,674	near surface to unknown depth	lithics, ceramic	Early Ceramic - undefined Woodland (?)	Camp
14RY5132	951003a-24	Keats	Riley	prehistoric site	493	near surface	lithics	Unknown Prehistoric	Camp
14RY5137	951003a-28	Keats	Riley	historic and prehistoric site	419	ca. 20 cm	lithics, cut nail	Unknown Prehistoric, Historic 1854-1900, 1900-1954	Camp, Is cut nail
14RY5144	951003a-47	Keats	Riley	prehistoric site	13,270	ca. 10 cm	lithics	Unknown Prehistoric	Camp
14RY5153	951003a-40	Keats	Riley	prehistoric site	480	surface and near surface	lithics	Unknown Prehistoric	Quarry, Worksho
14RY5155	951003a-59	Junction City	Riley	prehistoric site	1270	20	lithics	Unknown Prehistoric	Camp
14RY5157	951003a-57	Fort Riley NE	Riley	historic and prehistoric site	13,915	60	lithics, ceramics, historic artifacts	Unknown Prehistoric and Historic 1854-1954	Camp, A
14RY5159	951003a-66	Fort Riley NE	Riley	prehistoric site	3720	10	lithics	Unknown Prehistoric	Camp

(2)

not NRHP eligible

iod	Function	Environmental Context	Condition	Special Considerations	Priority
Prehistoric	Camp	Ridge Top	deflated	none	0
Prehistoric	Camp	Ridge Top	disturbed	none	0
Prehistoric	Camp	Terrace	eroded/ redeposited	none	0
Prehistoric	Camp	Terrace	possible over bank flooding	none	0
Prehistoric	Camp	Hill Slope	eroded, road damage	none	0
Prehistoric	Camp	Hill Slope	eroded, road damage	none	0
54-1900,	Agrarian	Hill Top	cultivated	none	0
Prehistoric	Camp	Ridge Top	vehicle trails	none	0
Early Ceramic	Camp	Hill Top	undisturbed	none	0

need of further work

od	Function	Environmental Context	Condition	Special Considerations	Priority
Prehistoric	Camp	Hill Top	disturbed	deeply buried flakes noted during earlier geoarch. investigations	3
0-1954	Military	Terrace	undisturbed	none	1
Prehistoric and 0-1954	Camp, Military	Terrace	undisturbed	none	1
0-1954	Military	Terrace	undisturbed	none	1
Prehistoric	Camp	Hill Slope	cultivated	evaluative testing recommend by original investigators	1
0-1954	Military	Terrace	possible bank erosion	none	1
Prehistoric	Camp	Hill Top	trenching	none	2
Prehistoric	Camp	Hill Top	blading	none	3
Prehistoric, 4-1900,	Camp, Workshop, Agrarian	Terrace	unknown	restrict vehicles to existing road; test before any road improvements	1
Prehistoric	Camp	Terrace	undisturbed	declare off-limits	2
4-1900,	Agrarian	Hill Top	undisturbed	none	1
- Late	Camp	Ridge Top	deflation/ cultivation	deflation and cultivation damage; stop cultivation, make off limits, revegetate	3
0-1954	Military	Small Valley	undisturbed	none	1
4-1900,	Military	Hill Slope	undisturbed	none	1
aic - ?)	Camp	Terrace	unknown	flooding could damage site	3
c - oodland (?)	Camp	Terrace	unknown	close trail to vehicle traffic; flooding could damage site	3
Prehistoric	Camp	Terrace	unknown	group recommendation; see Chapter 6	1
Prehistoric, 4-1900,	Camp, Isolated cut nail	Terrace	unknown	group recommendation; see Chapter 6	1
Prehistoric	Camp	Hill Slope	deflation, cultivation, road damage	close road and stop cultivation of food plot; possibly "Habitate O" site	3
Prehistoric	Quarry, Workshop	Bluff Top	unknown	avoid during any road improvements, declare off-limits to mechanized vehicle traffic	2
Prehistoric	Camp	Terrace	major soil stripping	none	3
Prehistoric and 4-1954	Camp, Agrarian	Terrace	flooding, roads	none	3
Prehistoric	Camp	Ridge Top	vehicle trails, trenches, artifact collection	none	3

(1)

Table 6 (cont.)

Sites i

Site Number	Field Number	Quadrangle	County	Type	Size (m^2)	Depth (cm)	Content
14RY5160	951003a-68	Fort Riley NE	Riley	prehistoric site	1266	20	lithics
14RY5162	951003a-69	Ogden	Riley	prehistoric site	2880	30+	lithics
14RY5163	951003a-70	Ogden	Riley	prehistoric site	2370	20	lithics
14RY5171	951003a-75	Ogden	Riley	prehistoric site	755	unknown	stone cairn
14RY5174	951003a-84	Junction City	Riley	historic site	98	surface	horse jump
14RY5175	951003a-82	Junction City	Riley	prehistoric site	80	50	lithics
14RY5176	951003a-72	Junction City	Riley	historic site	1,589,270	unknown	lead grapeshot and other pieces of ammunition
	951003a-12	Keats	Riley	historic site	35	surface	foundation
	951003a-20	Keats	Riley	historic site	60	near surface	depression
	951003a-64	Fort Riley NE	Riley	historic site	32	unknown	depression/dugout
	951003a-74	Ogden	Riley	historic site	32	surface	foundation
	951003a-79	Junction City	Riley	historic site	10	unknown	cistern or well
	951003a-81	Junction City	Geary	historic site	1600	unknown	depression and artifacts
	951003a-83	Junction City	Geary	historic site	50	unknown	depression

Site Number	Field Number	Quadrangle	County	Type	Size (m^2)	Depth (cm)	Content
14GE329		Junction City	Geary	prehistoric site	61	unknown	earthen mound
14GE3106	951003a-90	Junction City	Geary	prehistoric site	25	unknown	earthen mound
14GE3107	951003a-91	Junction City	Geary	historic and prehistoric site	100	unknown	earthen mound
14RY46		Junction City	Riley	prehistoric site	28	unknown	earthen mound
14RY47		Junction City	Riley	prehistoric site	42	unknown	earthen mound
14RY115		Keats	Riley	prehistoric site	11,067	ca. 40 cm	lithics, ceramics, fire-cracked rock, miniature vessel

(2)

Sites in need of further work (continued)

Content	Date or Period	Function	Environmental Context	Condition	Special Considerations	Priority
lithics	Unknown Prehistoric	Camp	Ridge Top	vehicle tracks, bivouacking	none	3
lithics	Unknown Prehistoric	Quarry	Hill Slope	undisturbed	none	2
lithics	Unknown Prehistoric	Camp	Hill Top	major blading	none	3
stone cairn	Unknown Prehistoric	Stone Mound	Bluff Top	undisturbed	none	2
horse jump	Historic 1900-1954	Military	Hill Top	undisturbed	none	1
lithics	Unknown Prehistoric	Quarry and Workshop	Hill Slope	minor disturbance	none	2
lead grapeshot and other pieces of ammunition	Historic 1854-1954	Military	Hill Top and Hill Slope	minor disturbance	none	1
foundation	Historic 1854-1900, 1900-1954	Agrarian	Hill Top	undisturbed	farmstead foundation; part of USACERL study	2
depression	Historic 1854-1900, 1900-1954	Agrarian	Terrace	undisturbed	historic depression; part of USACERL study	2
depression/dugout	Historic 1854-1900	Agrarian	Terrace	undisturbed	historic depression; part of USACERL study	1
foundation	Historic 1900-1954	Agrarian	Hill Slope	undisturbed	historic foundation; part of USACERL study	1
cistern or well	Historic 1854-1900	Agrarian	Terrace	road construction	historic feature; part of USACERL study	3
depression and artifacts	Historic 1854-1900	Agrarian	Terrace	undisturbed	historic depression; part of USACERL study	1
depression	Historic 1854-1900	Agrarian	Terrace	undisturbed	historic depression; part of USACERL study	1

Eligible sites

Content	Date or Period	Function	Environmental Context	Condition	Special Considerations	Priority
earthen mound	Early Ceramic	Burial Mound	Bluff Top	minor rodent disturbance	previously recorded mound	4
earthen mound	Early Ceramic	Burial Mound	Bluff Top	some disturbance	possibly 14GE143	4
earthen mound	Historic 1854-1900 and Early Ceramic	Ogden Monument and Burial Mound	Bluff Top	minor disturbance	possibly 14GE142	4
earthen mound	Early Ceramic	Burial Mound	Bluff Top	minor disturbance	Burnett Mound	4
earthen mound	Early Ceramic	Burial Mound	Bluff Top	undisturbed	Reeder Site	4
lithics, ceramics, fire-cracked rock, miniature vessel	Middle Ceramic - Smoky Hill	Camp	Terrace	intact cultural level; some disturbance	possible impact from cultivation; stop plowing in site area	5

0 No further work recommended.

1 Evaluative testing needed but the site is not believed to be endangered by the present level of activity or by increased mechanized activity.

2 Evaluative testing needed but the site is not believed to be endangered by the present level of activity. If increased mechanized use of the area is anticipated, the site may be endangered.

3 Evaluative testing needed. The site is endangered by the present level of activity and/or ongoing erosion.

4 The site is believed to be eligible for NRHP nomination but is not believed endangered by the present level of activity on the post.

5 The site is believed to be eligible for NRHP nomination and it is endangered by the present level of activity on the post.

ELIGIBLE SITES

14GE329, 14GE3106, 14GE3107, 14RY46, 14RY47

All five of these sites appear to be prehistoric burial mounds. All of these bluff top locations overlooking the Republican/Kansas River Valley have apparently been known to Euroamericans since at least the turn of the century. Because of their significance both as archaeological resources and traditional cultural properties, it is believed that all five of these mounds are eligible for nomination to the National Register of Historic Places.

None of the mounds appear to be endangered by the present level of activities at Fort Riley. As a precaution, however, the locations of 14GE329, 14RY46 and 14RY47 should probably be declared off limits to any forms of training or maintenance activities. Revegetation and fencing along the western side of 14GE3106 might also be advisable.

The historic component at 14GE3107, the Ogden Monument, also needs to be evaluated. This should be done within the contexts of the early history of Fort Riley and the historical significance of Major E.A. Ogden.

14RY115

The testing results at 14RY115, especially the recovery of a nearly complete miniature vessel, indicate that an intact cultural level is present in at least certain parts of the site. Diagnostic artifacts indicate that 14RY115 is a Smoky Hill variant component. The type and density of artifacts indicates that the site may be a residential base camp or small hamlet.

Site 14RY115 contains information important to the study of Smoky Hill settlement and subsistence patterns within tributary stream valleys of the northern Flint Hills region of Kansas. The presence of ceramics and diagnostic chipped stone also suggests that 14RY115 could be of benefit to Middle Ceramic/Plains Village taxonomic studies. Both types of

research have long been recognized as valid and important avenues of study into Kansas prehistory (Wedel 1959; Steinacher 1976; Brown and Simmons 1987; Logan and Ritterbush 1994). As such, 14RY115 is believed to be eligible under Criterion D of the National Historic Preservation Act.

Additional investigations, however, are necessary before the boundaries of the National Register eligible property can be properly identified. Of major concern is whether or not an intact cultural level is present within the cultivated southern side of the site. While the testing at 14RY115 indicates that artifacts extend down to at least 40 cm, the amount of leveling and soil deflation that has taken place within the plowed field is difficult to determine.

It is believed that additional archeological testing should be undertaken to assess the integrity of the cultural level within the cultivated portion of 14RY115. If at all possible, this testing should be preceded by remote sensing investigations (probably some form of magnetic anomaly or resistivity study) to identify subsurface features. With the results from this type of study, testing efforts could be better positioned in the areas most likely to yield the desired types of information. Up to 20 m^2 of testing in 1-by-1 and 2-by-2 m units may be necessary to adequately sample the cultivated area of 14RY115. Besides excavation and basic analytical expenses, funds should be budgeted for at least five radiocarbon samples and the flotation and identification of materials from at least five cultural features.

Based on the results of this testing, it should be determined if the cultivated area of the site is a contributing element of the eligible property. Until such time as that determination can be made, all cultivation should be suspended within 20 meters of the presently defined boundaries of 14RY115.

The intact portions of 14RY115 do not appear to be endangered by the present level of activities in this part of Fort Riley. If mechanized use of this area is anticipated, the entire site area, as well as a 20 meter buffer around it, should be designated as off limits.

SITES NOT BELIEVED TO BE NRHP ELIGIBLE

14RY5107 Although a rather dense scatter of lithics is present on the ground surface at 14RY5107, 40 shovel tests and a 1-by-1 m test unit failed to produce any evidence of subsurface materials. There is very little soil development and the site area has been subjected to repeated wind erosion.

14RY5116 All of the artifacts found at this site are exposed in a vehicle trail. Shovel testing at five meter intervals on either side of the trail revealed a zone of soil development less than five centimeters thick. No subsurface cultural material was recovered.

14RY5125 All of the artifacts at 14RY5125 were found in very gravelly deposits encountered a few centimeters below the present ground surface. It is apparent that the cultural material is coming from both the remains of an old road bed and a natural gravel bar that cross the site area. It therefore

seems likely that the entire site is disturbed by flooding and construction. There is no evidence of in situ cultural materials.

14RY5130 Shovel testing at 14RY5130 indicates that a minor amount of subsurface cultural material is present in loose, sandy alluvial deposits. Only six flakes were recovered and there is no evidence of an intact cultural level.

14RY5149 Although both surface and subsurface lithics are present at this site, all of the subsurface material at 14RY5149 appears to be coming from the upper 10 cm of deposition. This material has been disturbed by slope wash, vehicle activity, and tree planting. There is no evidence of an undisturbed cultural level.

14RY5152 Shovel testing and a 1-by-1 m test unit at 14RY5152 produced evidence of subsurface lithics extending to a depth of 20 cm below the present ground surface. The upper portion of the deposits appears to be extensively disturbed by vehicle activity. Below this, the matrix is a clay loam mixed with small pieces of limestone. The nature of the matrix and the sloping nature of the site area indicate that much, if not all, of the cultural material has been transported down hill be slope wash. There does not appear to be an intact cultural level present.

14RY5154 This site consists entirely of a thin scatter of historic debris within a cultivated fire break. Because of the plowing, the material is highly fragmented and dispersed. Because of the lack of artifact concentrations, it is unlikely that the materials extend below the plow zone.

14RY5158 This site appears to consist entirely of flaking debris exposed on the surface. Thirty-five shovel tests and a 1-by-1 m test unit excavated in the site area did not produce any subsurface artifacts. Sediments exposed in the test unit indicate a very shallow band of top soil on top of culturally sterile clay deposits. The flakes recorded on the surface do not appear to be in concentrations and do not seem to exhibit any recognizable patterning. The site area has also been disturbed by vehicle activity.

14RY5173 Although a projectile point was found on the surface of this site, this artifact and another 10 flakes recorded on the surface appear to be resting on bedrock. The results from 35 shovel tests and a 1-by-1 m test unit indicate the presence of limestone at or very near the present ground surface in all of the site area. Even within the test unit, which was excavated in a small pocket of top soil, much of the matrix was found to consist of weathered limestone fragments and other coarse gravels. No artifacts were found in the shovel tests or in the test unit.

SITES IN NEED OF FURTHER EVALUATION

14GE183 It is believed that the test unit and shovel tests excavated at this site in 1996 have defined the vertical and horizontal limits of the upper component at this site. That component appears to be a near surface manifestation composed almost entirely of flaking debris. Another more deeply buried component has been reported at 14GE183 as a result of ongoing geo-archaeological research on the post.

Approximately five m^2 of additional testing are recommended at 14GE183 in order to determine the character, extent and age of the lower component. These same test units should also be designed in a manner that will yield additional information concerning the near surface component. The site has already been impacted by pipeline and road construction. Situated on a narrow hill top, it is also being impacted by slope erosion.

14GE3103, 14GE3105, 14RY5174

These early twentieth century horse jumps recorded during the Stage II survey (including the jump at 14GE3104) are most likely part of training courses used by the Cavalry School. Additional historic research would be necessary to completely delineate the historical significance of these structures and identify the total complex that made up equestrian training facilities at Fort Riley. All four jumps recorded in the 1996 survey appear to be well preserved and they are not impacted to any great degree by training activities.

14GE3104

(see above for recommendations concerning the horse jump at 14GE3104) Flaking debris, chipped stone tools, and mammal bone were discovered in subsurface testing at this site. Because the terrace this site is on is elevated approximately five meters above the channel of Pumphouse Creek, the area does not appear to have been subjected to as much periodic flooding as some of the other sites recorded in the valley bottoms during the Stage II survey.

Additional testing at 14GE3104 is recommended to determine the number and ages of the prehistoric components present within approximately 50 cm of artifact-bearing deposition. As many as 10 m^2 of testing may be necessary to complete this task. Funding should be set aside for approximately five radiocarbon samples and the flotation of feature fill. The site area is presently well stabilized and not endangered by training activities.

14RY117

The original investigators at 14RY117 recommended additional work to determine the nature and significance of a potential cultural component ca. one meter below the present ground surface (McDowell and McGowan 1993:76,100-102). The 1995 inspection of this site area revealed that minor amounts of prehistoric cultural material are being brought to the surface by cultivation. While the testing recommended by McDowell and McGowan is perhaps advisable in terms of a long term management and evaluation plan for Fort Riley, it does not appear that significant cultural deposits are presently endangered at this location. Periodic monitoring of the site may be the best management strategy. If the frequency or type of artifacts in the cultivated area changes over time, a formal testing program could be developed to evaluate the site. Currently, the site should be viewed as not endangered by activities on the post.

14RY3172

During the 1996 LTA survey work, the boundaries of this pistol and rifle range were expanded to the north to include another concrete and earthen target area. The National Register eligibility of this entire site must await a report by the original investigators. At present, training activities do not appear to be significantly impacting this old target range. However, flooding and bank erosion along Threemile Creek could have a long term

impact on the structures.

14RY3184 Shovel tests and a 1-by-1 m test unit excavated at 14RY3184 revealed a very sparse prehistoric cultural component that may extend to 30 cm. Although some of the site has probably been destroyed by a trench dug along the bluff top, materials may still exist in the relatively undisturbed areas north of the trench. Five square meters of testing are recommended in order to better assess the nature and integrity of the prehistoric component identified at this site. Although the remaining portions of the site do not appear to be endangered by the present level of activities, increased use of the site area would probably damage the soil mantle and cause damage to any remaining intact deposits.

14RY3185 Although this site appears to have been extensively damaged by blading activity and vehicle trails, the test unit excavated along the eastern side of the hill top containing 14RY3185 indicates a fairly dense, near surface prehistoric component. Approximately five m^2 of additional testing should be carried out along the undisturbed portion of this hill top in order to determine the integrity and extent of what remains of the site. The site should either be evaluated as soon as possible or revegetated to slow soil erosion.

14RY4131 While the prehistoric component at this site appears to be disturbed and quite diffuse, unexpected amounts of historic artifacts were recovered from the test unit. Judging from the types of artifacts recovered (chinking and cut nails), the historic component at 14RY5115 could be a fairly early area of focused human settlement. Additional archival and archeological investigations are recommended to determine the age, history, and function of this site. Historic research should include a chain of title search to determine past ownership, consulting published county histories to gather information on the inhabitants, and contact with local historical societies to gather any other data that may exist concerning the settlement of this section of Elm Hollow. Archeological testing activities should expand the area around the original test unit in order to determine if the remains of a structure are present. It is estimated that approximately 10 m^2 of additional testing will be necessary to accomplish this goal.

14RY5104 The test units and shovel tests excavated at this site have determined the horizontal extent and depth of the cultural deposits. The age and function of the site have not, however, been determined. If a datable occupation level can be identified and investigated at 14RY5104, this site could yield information important to the understanding of the prehistoric settlement of the Wildcat Creek valley. Other investigations have (Rohn and Blasing 1986) already demonstrated that similar sites in this setting contain important archeological data.

Approximately 10 m^2 of additional testing are recommended at this site in order to evaluate its age, function and integrity. The site does not appear to be endangered by the present level of activities in this part of Fort Riley. If mechanized use of this area is anticipated, the terrace area (west of an abandoned road) containing the site should be declared off limits, at least until 14RY5104 can be further evaluated.

14RY5105 Evaluation of this historic era limestone quarry should await completion of the USACERL farmstead study. The historical significance of the site should be considered in light of the overall settlement history of the project area. Although it is somewhat of a remote possibility, some attempt should also be made to determine if materials from this quarry were used in any of the original construction at Fort Riley. The site does not appear to be endangered.

14RY5109 Although testing at this location seems to indicate that much of the site has been destroyed by cultivation and wind deflation, the presence of Paleoindian material at 14RY5109 dictates that the area should be more fully evaluated. Additional testing is recommended around the northern and eastern perimeter of the site area. It is estimated that approximately five m^2 of testing will be necessary to determine if an intact cultural component is present. In order to gain as much information as possible, the archeological testing at 14RY5109 should be accompanied by a geomorphology study aimed at a better understanding of the sediments and terrain characteristics at locations containing early cultural materials on the post.

The western end of the food plot containing 14RY5109 should be taken out of cultivation and efforts should be taken to stabilize the ground surface through revegetation. Because of the nature of the soils, mechanized vehicle traffic could have a devastating impact on any remaining cultural deposits. The entire site area, as well as a 10 meter buffer around it, should be declared off limits until the recommended evaluation studies can be completed.

The current level of activities in this part of Fort Riley do not appear to be significantly impacting the cultural material at this site. Any vehicular activities should, however, be restricted to the existing vehicle trails within the site area. If road upgrading is planned, or if increased mechanized use of the area is anticipated, the evaluation program recommended above should be carried out prior to the initiation of any of these activities.

14RY5120 The age and exact function of this historic site is unknown. Testing should be undertaken to determine the presence, function, and physical integrity of any subsurface cultural material. This could be accomplished in approximately five square meters of testing. Based on the amount of metal artifacts present on the surface, a metal detector survey (tuned to search for ferrous metals only) might reveal subsurface concentrations. The site appears to be well protected from the current level of activities in this part of Fort Riley. If increased mechanized use of the area is anticipated, the evaluation program recommended above should be carried out prior to the initiation of any of these activities.

14RY5129 The artifact assemblage thus far recovered from this site indicated that it is a Smoky Hill variant site that could address the same research topics discussed above for 14RY115. The testing conducted, however, did not establish the physical integrity of the deposits at 14RY5129. Based on the amount of rounding on the edges of some of the body sherds and the nature of the matrix in which the artifacts were recovered, some of the site deposits have almost certainly been impacted by stream actions. Additional testing is therefore necessary to establish whether or not an intact cultural

level is present, what it contains, and how large it is. As with 14RY115, this testing should be preceded by remote sensing investigations to identify subsurface features. Once this has been accomplished, between 5 and 10 m^2 of testing may be necessary to adequately evaluate the site. Some test units on the flood plain portion of the site may have to extend to approximately 100 cm in order to be certain that the bottom of the cultural deposits have been reached. Funds should be budgeted for at least five radiocarbon samples and the flotation and identification of materials from at least five cultural features. Because the site deposits apparently lie on both the flood plain and the first terrace above the flood plain, some backhoe trenching at the site may also be advisable in order to aid in the interpretation of geomorphic setting. This type of trenching should only be undertaken, however, if it can be assured that it will not destroy significant amounts of the cultural deposits.

The site appears to be protected from the day-to-day activities on this part of the post but spring flooding along Sevenmile Creek could severely impact the deposits. Any increased mechanized use of the area would also endanger the site. For these reasons, the site should be evaluated as soon as funding becomes available.

14RY5131

This is a large site with an extensive subsurface deposit of cultural material. The age of 14RY5131 can presently only be guessed at (it may be Early Ceramic) and its function is unknown. Because of its size, at least 15 m^2 of testing may be necessary to evaluate the NRHP eligibility of 14RY5131. If possible, this testing should be preceded by remote sensing investigations to identify subsurface features. Funds should be budgeted for at least five radiocarbon samples and the flotation and identification of materials from at least five cultural features.

Except for occasional vehicle activity on a trail that passes through it, 14RY5131 appears to be protected from the day-to-day activities on this part of the post. This trail should be declared off limits to all uses except foot traffic. The southern portions of the site are almost certainly being eroded by spring flooding along Sevenmile Creek. Any increased mechanized use of the area would also endanger the site. For these reasons, the site should be evaluated as soon as funding becomes available.

14RY5132, 14RY5133, 14RY5134, 14RY5135, 14RY5136 & 14RY5137

These localities are of concern not so much as individual site locations but because of the nature and density of the artifacts recovered from this entire area in the Sevenmile Creek bottoms (Figure 134). Shovel testing and the excavation of test units has revealed a relatively high artifact density as well as a high tool to debitage ratio. The character of the artifacts recovered in this area (cores, core fragments, primary decortication flakes, bifacial quarry blanks, etc.) suggests an intense level of activity dealing with the processing of nearby Florence chert deposits. Since lithic procurement and aboriginal flint knapping activities are a research topic specifically discussed in the Kansas Prehistoric Archaeological Preservation Plan (Brown and Simmons 1987:XX-2), additional research in this locality

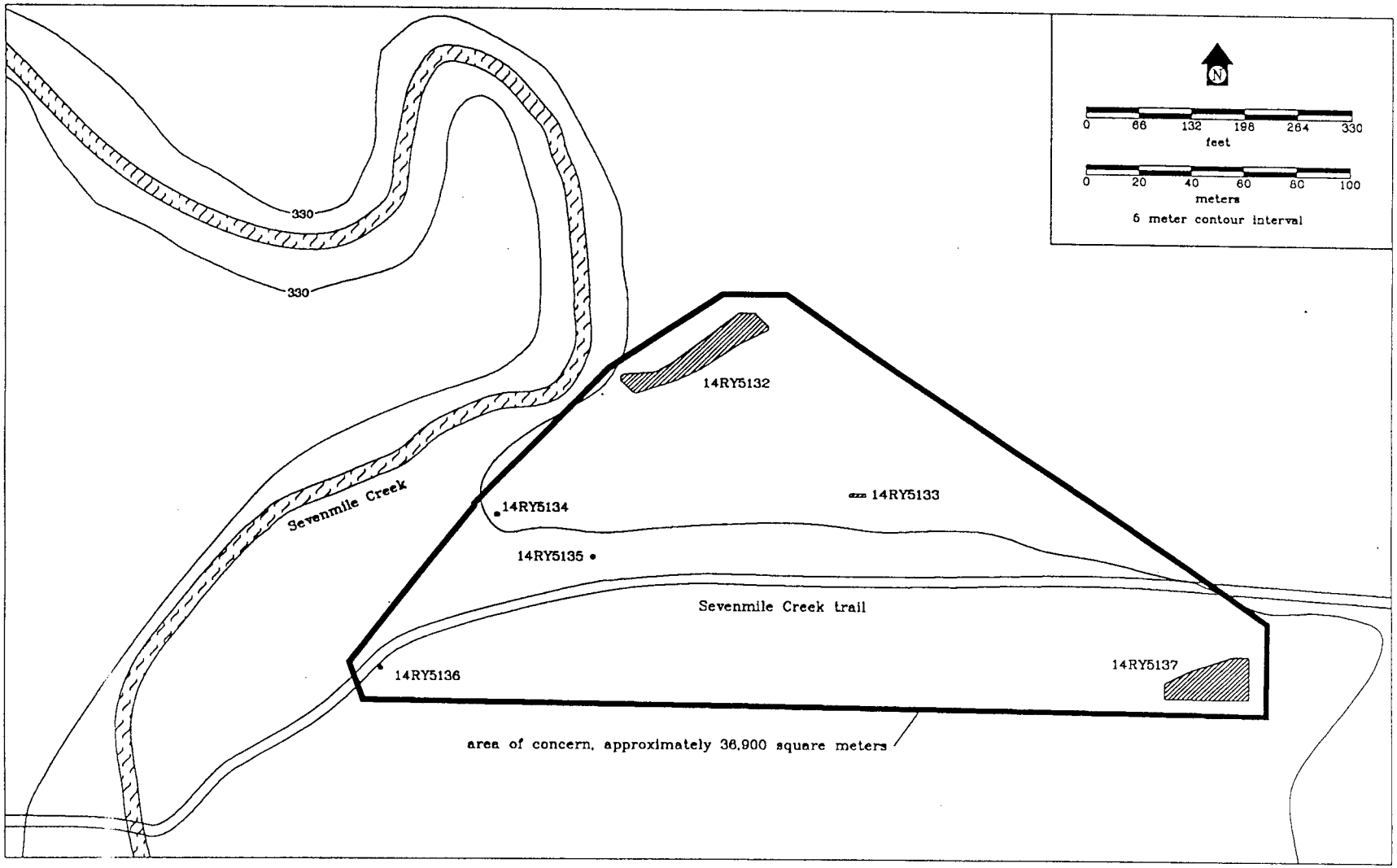

Figure 134. A map of the Sevenmile Creek bottoms showing the area proposed for additional study.

could yield information important to the understanding of Kansas prehistory.

While no specific research in this area is currently viewed as necessary, efforts should be made to restrict vehicle traffic to the existing road that passes through the valley bottom. To accomplish this, fencing and graveling of the roadbed may be necessary. If the road is to be upgraded beyond this level, or if mechanized use of the area is planned, a testing program should be developed to better assess the significance of the archeological deposits within the area shown on Figure 134. The level and type of testing should be commensurate with the anticipated amount of impact.

14RY5144 The investigations carried out at this site in 1995 indicate that approximately the eastern one-third of 14RY5144 has been severely impacted by deflation and erosion. Below the plow zone in the food plot, as well as in grassland areas to the north and west of the plot, there appears to be some potential for intact cultural deposits. This needs to be determined through additional testing. Approximately 20 m^2 of testing, half in the plowed area and half in the grassland, may be necessary to assess the significance of 14RY5144. Funds should be budgeted for at least three radiocarbon samples. Since this site may also be part of Wegandt's "Habitate O" (see Chapters 2 and 3), some effort should also be made to determine if earlier artifact collections exist from this location.

Until the NRHP eligibility of 14RY5144 can be evaluated, it is recommended that the food plot within the site area be taken out of cultivation. The vehicle trail passing through the site should also be closed. The site area should also be declared off limits to any form of mechanized vehicle traffic.

14RY5153 This site appears to be a quarry and workshop area within a bedrock deposit of Florence chert. Since lithic procurement and aboriginal flint knapping activities are research topics specifically discussed in the Kansas Prehistoric Archaeological Preservation Plan (Brown and Simmons 1987:XX-2), additional research in this locality could yield information important to the understanding of Kansas prehistory. Additional testing at 14RY5153 to determine if quarry features are present or if artifact concentrations are discernible that might indicate the level of procurement, the technologies employed, and the age of use is recommended (e.g., Ahler 1986). It is believed that approximately 10 m^2 of excavation may be necessary to answer these questions.

The current level of activities in this part of Fort Riley do not appear to be impacting the site area of 14RY5153. Two active roads, however, are quite near the site boundaries. Should modifications to the routes be planned, care should be taken to avoid 14RY5153, at least until its NRHP eligibility can be determined. The site area should also be declared off limits to any form of mechanized vehicle traffic.

14RY5115 Additional historic research is necessary to determine the exact age of construction and the associations of the water tanks that once stood at this location. The overall significance of this site should probably be evaluated within the context of the early history of Camp Funston. The remaining

foundations do not appear to be impacted by training activities.

14RY5155 This site was discovered in an area that has been recently cleared of top soil by blading activities. Although much of the site appears to have been destroyed, an eroding concentration of flakes was noted in the disturbed area. A 1-by-1 m test unit also produced 14 pieces of flaking debris in the upper 20 cm.

Approximately 10 m^2 of additional testing is recommended at 14RY5155 in order to determine if features or an intact cultural level can be detected below the zone of disturbance. While five of these units could be randomly placed over the site area, it is recommended that the other five be positioned in the eastern part of the site where cultural material appears along a possible terrace edge. The topographic relief and the artifacts observed in this part of the site indicate that it may not be as heavily impacted as the rest of the bladed area.

Because of the nature of the top soil stripping, erosion will probably quickly destroy any intact deposits remaining at 14RY5155. The site should either be evaluated as soon as possible or revegetated to slow soil erosion.

14RY5157 Shovel testing at this locality revealed a relatively dense distribution of flakes, lithics, and historic artifacts over a large area next to Threemile Creek. It is also the only area investigated within the Stage II survey area that produced prehistoric ceramics. In the excavation of a 1-by-1 m test unit, however, most, if not all of the cultural material recovered appears to be redeposited by flooding. Since historic artifacts were found mixed with prehistoric materials to a depth of 60 cm, this flooding appears to have been intense and relatively recent (i.e., within the twentieth century).

Additional testing should be carried out at 14RY5157 in order to determine if there are any intact remnants of one or more prehistoric components. Up to 20 m^2 of testing may be necessary to adequately explore all parts of this large site. This testing should be accompanied by detailed contour mapping and geoarchaeological trenching for the purposes of describing the landforms and sediments present. Funds should be budgeted for up to five radiocarbon samples and the flotation and identification of materials from cultural features.

This site has been impacted by overbank flooding along Threemile Creek and by old and new vehicle trails down the creek valley. Although on-foot training activities probably do not endanger the site, any forms of excavation (fighting positions, trenches, etc.) or ground clearing could impact the cultural deposits.

14RY5159 This site contains flaking debris and chipped stone tools on and just below the present ground surface. Although the east side of the site has been impacted by a vehicle trail, much of the site area is in a relatively undisturbed grassland. A 1-by-1 m test unit excavated in the north central part of 14RY5159 revealed flakes and core fragments in the upper 10 cm.

Although this site has probably been impacted by wind erosion, vehicle traffic and training activities, an intact, shallowly buried cultural level may

still be present. Five m^2 of additional testing are recommended to assess the integrity of the cultural material at 14RY5159 and attempt to find datable features or diagnostic artifacts.

14RY5160 Although this site appears to have been heavily impacted by vehicle traffic and bivouacking, shovel tests and a 1-by-1 m test unit indicate that there are some subsurface prehistoric artifacts present. An additional three m^2 of testing should be carried out at 14RY5160 to determine the nature, density and integrity of the subsurface cultural materials.

14RY5162 This site contains large quantities of cores, core fragments, and flaking debris that all appear to be coming from an on-site bed of Florence chert. Testing indicates that the chert seam is approximately 15 to 20 cm below the present ground surface. Whether the lithic materials obtained from this source had to be excavated or, conversely, the seam was exposed at the time of the aboriginal procurement, is presently unknown.

Lithic procurement and aboriginal flint knapping activities are research topics specifically discussed in the Kansas Prehistoric Archaeological Preservation Plan (Brown and Simmons 1987:XX-2). Additional testing at 14RY5162 is recommended in order to determine if quarry features are present or if artifact concentrations are discernible that might indicate the level of procurement and the technologies employed. It is believed that approximately 10 m^2 of excavation may be necessary to answer these questions.

14RY5163 Although most of this site has been destroyed by blading, a 1-by-1 m test unit along its southern border produced a dense concentration of flaking debris in approximately the upper 15 to 20 cm of deposition. Shovel testing around the test unit indicates, however, that this subsurface cultural material does not cover a very large area. An additional three m^2 of testing are recommended in the immediate vicinity of the original test unit. This testing should be designed to assess the activities that took place at 14RY5163, better interpret the stratigraphy, and search for cultural features. The present level of training activities could very quickly destroy the remainder of this material. The site should either be evaluated as soon as possible or revegetated to slow soil erosion.

14RY5171 The age and function of the small and amorphous rock feature recorded at this site is unknown; it could be either historic or prehistoric in origin. While testing the feature would aid greatly in its interpretation, it should be noted that other nearby features of this type are known or suspected to contain Plains Village burials (Wedel 1959:178,182). Unless the site will be impacted by increased training activities, protection measures are probably the best means of managing this site. It appears that 14RY5171 could easily be protected by declaring the small bench that it occupies off limits to any forms of training activity except for foot traffic.

14RY5175 This site appears to be an aboriginal quarry and workshop area. The small size of the artifact distribution and the nature of the stratigraphy exposed in a test unit indicate that the activities that took place here may have been concentrated around one chert seam. The actual excavation of quarry pits is also indicated by the pockets of upper sediment redeposited below the natural level of the limestone bedrock.

Lithic procurement and aboriginal flint knapping activities are research topics specifically discussed in the Kansas Prehistoric Archaeological Preservation Plan (Brown and Simmons 1987:XX-2). Additional testing at 14RY5175 is recommended in order to determine the age of the site, the level of procurement that took place, and the technologies employed. It is believed that approximately 10 m^2 of excavation may be necessary to answer these questions.

14RY5176 This large area should be evaluated within the context of the history and significance of the Artillery School at Fort Riley. Because of the nature and size of the site, any ongoing or anticipated activities will probably have very little impact on its integrity. From a safety standpoint, the area needs to be evaluated as a potential hazard in terms of high lead levels and unexploded ordnance.

951003a-12, 951003a-20, 951003a-64, 951003a-74, 951003a-79, 951003a-81, 951003a-83 These seven sites will be fully recorded and evaluated during the USACERL farmstead study. Sites 951003a-81 and 951003a-83 may be of particular importance since they appear to be the remains of civilian farmsteads within the original boundaries of Fort Riley. If this assessment is correct, they may be some of the earliest rural settlement sites on the post.

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